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ATLAS OF MEN

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A GUIDE FOR SOMATOTYPING THE ADULT MALE AT ALL AGES

by

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Preface

In earlier volumes of the *Human Constitution* series[1] the question has been raised whether an answer to some of the bafflements of life may possibly be contained within the program and philosophy of a biological humanics. By this is meant a science of man resting on biological descriptions and procedures. One major step toward such a science might be contained in a basic structural taxonomy of human beings.

The history of science could be written as a heroic saga depicting a somewhat halting growth of human faith in the proposition that structure and behavior are continuously related in this world; and indicating a gradual extension of control over behavior through paying heed to structure. Modern organic chemistry would be an instance in point.

The descriptive device based on the somatotype (definition, p. 337) yields a distribution of the population in which everybody, of whatever age, sex, race or color, has a unique place. The taxonomy of somatotypes is therefore both inclusive and differentiative, and the idea of human pigeonholes disappears into a polydimensional distribution somewhat as acorns disappear into oak trees. It seems also to be a relevant or biologically valid taxonomy since its basic three-component pattern, changing with time, has already been found very similarly reflected at various levels of personality structure: At the morphological level in the somatotype itself; at a motivational level in the Index of Temperament (see VT,[1] Chapter 3); and at a level of behavioral or psychiatric pathology in the Psychiatric Index (see VDY,[1] Chapter 2). Finally, the somatotype is recognized or identified by its changes through time as well as by its immediate, phenotypic presentation. One aspect of these changes most easily recorded is change in weight.

The present volume gives the progression of weight changes, as a series of norms or means, for each of the known somatotypes throughout the period of adult life between ages 18 and 65, as these are reflected in an American population of 46,000 men (see p. 11) who served as subjects in the study herein reported. These progressions of weight are presented in the text of Part II both as tables and as somatotype weight curves which may perhaps be regarded as normal weight curves for a sample of American men at the time of the study—the nineteen forties. They are normal in the sense that they are what a fair-sized sample showed.

However, normal does not necessarily mean optimal. It is known that various other peoples follow flatter weight curves than we do in this country, and it is suspected that these flatter curves are associated with what is in some respects better health. Now, do the flatter curves result from genetically different distributions of physique, or from less privileged and less voluminous diets, or from different cultural habits, or from mixtures and combinations of all three factors? To answer such questions it will be necessary to collect longitudinal records among other populations, as well as our own, but in the meantime we can raise still more difficult questions—such, for example, as the genetics of the somatotype.

In this area the present volume is intended to introduce a methodological approach rather than definitive answers. Modern genetics has long since outgrown an early optimism that simple formulations of a mono- or even multi-factorial dominant-recessive dichotomy could be used to explain all inheritance. Genetic theory now attempts to reach across to the continuum of biological observation by means of increasingly elastic concepts like the total gene complex, pleiotropism, polymorphism, blending inheritance, incomplete and partial dominance, relative penetrance of genes, and so on. Different modes of inheritance are postulated for different pedigrees, and hereditary differences are considered partly in the light of presumed responses to environmental stimuli during pre- and post-natal development. In short, geneticists also have begun to think in terms of a distributional continuum which in this case is a continuum both in the mode of inheritance and in the heredity-environment relationship as well as in the morphological end products of the genotypic pattern. Thus at least three continuities are at work in the somatotype, and the vestigial "pigeonhole" notion has been disappearing from our conceptions of the *cause* of the somatotype as well as from our taxonomy of the end product itself.

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[1] Earlier volumes: (1) *The Varieties of Human Physique* (VHP); (2) *The Varieties of Temperament* (VT); (3) *Varieties of Delinquent Youth* (VDY).

Meanwhile it can perhaps be said fairly that the concept of the somatotype, far from being genetically unmanageable, may in fact provide a necessary starting point for an exact genetic study of physique in man. The somatotyping method offers for the first time a human taxonomy compatible with the important genetic idea of polymorphism of the species, which reflects the fact of continuous morphologic variation in man. Somatotypes are morphophenotypic ranges along continua of variation which possess constantly recognizable characteristics and are the functional end products of the whole genetic and developmental complex. The somatotype and its physiological correlates represent a first descriptive step in recognizing genetic pleiotropism and polygenic interaction. After this descriptive phase is completed, precise study of the genetic mechanisms at work appears possible. Research to this end has been initiated at Columbia University in a twin study using the somatotype as a primary frame of reference.

It will be readily understood that this Atlas represents a cross-sectional compromise with a longitudinal problem. Before the most important questions about human life can be answered, studies are needed which will follow a sufficient sample of people, not merely for one lifetime but for several generations. Meanwhile, just as life itself is a compromise with the desire for a more permanent continuance, any published research on human beings must for the present compromise with the need to know the genetics and the resultant constitutional individuality of all who were subjects in the research. We have reached a point where it is customary, when research findings on a group of subjects are published, to include a report on another, normal or control group. But researchers do not yet customarily include constitutional descriptions, or even somatotype photographs, of the individuals in either the control group or the experimental group. Even our most careful research scientists may thus lose a large fraction of the value of their work. Since this kind of loss cannot be altogether avoided until a longitudinally validated constitutional taxonomy becomes available, and since that will take at least a century, perhaps the best move is to try to reduce the loss to a reasonable minimum by making available the constitutional data we actually do have. These data meanwhile should find practical value in clinical and actuarial application where problems involving nutrition, normal or abnormal, are continually encountered; and also as a standard reference file for use in all fields where human individual differences are important.

In a sense it seems premature to publish such an Atlas from a mere cross-sectional study, even though a sizable sample of men is represented. It might be long-run wisdom to withhold publication and instead to set up an institute to follow a few thousand of these men through their lives, and also to follow their offspring for at least one or two generations. If we could wait to do this, the resultant taxonomy would undoubtedly be a superior one.

The Atlas as here constituted, however, compromise that it is, is presented as the most sensible arrangement of the morphological variations of a population that we can now make. The somatotype distribution provides a kind of working periodic table by means of which correlative inquiry can be carried on and against which, as a frame of reference, approximately true-to-life norms or standards *can* be set up in almost every branch of human biology.

The principal *purpose* of the Atlas is to make available a standard file of somatotype variations, together with the criteria actually employed in somatotyping, so that correlative inquiry of the sort mentioned can in fact be carried out. Standardization of a practical tool is the present objective. Questions bearing on the *theoretical* soundness or unsoundness of somatotyping will continue to be of great interest but perhaps they can be deferred until longitudinal studies are carried out on statistically planned samples of people. Our present sample was not a planned one. The subjects were collected, or accumulated, rather, over a period of a dozen years as opportunities arose. Primarily, we were concerned with encompassing the whole range of normal variation and with thus anchoring the scales for somatotypic description at different age levels. For these purposes the sample used was adequate and it is now felt that the progression of somatotyping criteria can be considered permanently anchored or established for adult men. The job of the present book is to set forth these criteria so that they can be understood and used. Somatotyping can then no longer be characterized as "something in Sheldon's head."

Secondarily, we were concerned with setting up tables of frequency, or rarity, among the different somatotypes. These tables should be regarded as still under construction, and the present offering should be considered not a finished product but only a tentative target subject to further refinement as better samples become available.

The central problem in constitutional research is to lay a foundation for bringing order and structure to the study of individual differences. The somatotype is a first step, a kind of temporary scaffolding, for the description of an individual. It *appears* to be the most deep-seated, most general, and most overt expression of personality that a human being presents. It is possibly the least changing manifestation of human personality that is both general and overt. But when the somatotype is described, the work of the biologist, psychologist or clinician has only begun. Even if the basic pattern of an individual is well established, within that pattern the potentialities for both adaptive and nonadaptive variations of structure and behavior may be infinite and may lie beyond the reach of the statistical language we have yet evolved. The individual personality will defy statistification in the end even if the problem is approached with our every organizational resource. But if we assay to embrace the behavioral and clinical variations to be encountered in this vast field by the mere employment of statistical abstractions without first arraying the data against some such ordering device as the somatotypic taxonomy offers, we only give hostages to statistical chaos.

The first volume of the series introduced the concept of constitutional analysis, using the somatotype as a frame of reference. The second and third volumes attempted a methodological demonstration of the constitutional approach, first in the fields of psychology and temperament, and later in those of psychiatry and delinquency. The present volume establishes tentative norms for somatotyping men. A companion volume, similarly normative for somatotyping women, is planned to follow shortly.

In 1947, at the College of Physicians and Surgeons, Columbia University, the Constitution Laboratory began a series of studies on constitutional factors among patients presenting different clinical diseases. A branch of this Laboratory was established in 1951 at the University of Oregon Medical School in order to carry out parallel studies in the two institutions on two different samples of population. We are now following fairly sizable groups of patients who present diseases long regarded as more or less constitutional—in particular, diabetes, peptic ulcer, gallbladder disease, heart disease and hypertensive vascular disease, rheumatoid arthritis, thyroid disorders, cancer of several kinds, and the cycloid and schizophrenic psychoses. It is felt that a thorough constitutional examination of these different clinical series may yield a definite answer to the question whether the somatotyping procedure would be profitably incorporated in the diagnostic and prognostic routines of medical and surgical clinics generally.

For help in this study, grateful acknowledgment is due first of all to the colleagues of the writer at the College of Physicians and Surgeons and in the Institute of Human Variation at Columbia, and at the University of Oregon Medical School; to the co-operating directors of student health, and particularly to the faculties of the departments of physical education in 31 colleges and universities where students were photographed; to many officers, personnel directors and other representatives of co-operating military, civilian and industrial organizations; to the medical directors and staff at 26 other hospitals or medical institutions where some of this work was done; and finally, to some 46,000 men themselves who have served as subjects. Since I am not at liberty to list all of the co-operating individuals and organizations by name, anonymity having been vouchsafed in some instances, to mention some without mentioning all might seem invidious. Suffice it to say that among the portraits to be encountered on the plates of the Atlas are those of men of distinction. Eminent professors are there, philosophers and doctors, a sprinkling of really topflight athletes, a constitutional psychologist, two or three murderers, and one of the most accomplished check forgers in the country.

Of my collaborators, Dr. Dupertuis has been closely associated with the somatotype projects almost from their beginnings. Mr. McDermott has not only financed a large part of this work but for years has been a partner and participant in the work itself. Dr. E. M. Hartl and Mr. A. M. Tenney, between them, photographed or helped photograph more than 5,500 of the subjects of the study and have otherwise given appreciated assistance at many points. Drs. Hudson Ansley and Aimée Diefenbach did the drawings of the animal totems for the various somatotypes, warming and enlivening an otherwise dull procession of numerical abstractions. Barbara Honeyman, Dorothy Paschal and Madge Deaver, being women, have naturally done most of the hard work of the project in recent years. Drs. Albert Damon and Sylvia Traube, now of the Columbia staff, and Dr. Ruth Kokko of the Oregon staff, are assisting in the extension of the project into clinical medicine. Richard Osborne, at Columbia, is carrying out a study of constitutional factors among twins. Professors Harrison Clarke, C. H. McCloy and Carl Willgoose, in the physical education field, have been using the somatotype method in some very productive experimental projects. Mr. W. G. Bowerman, of the New York Life Insurance Company, has contributed valuable statistical information.

Dr. Paul Fejos, Director of Research for the Wenner-Gren Foundation, has given generous support to the project through a period of six years, largely subsidizing this present publication, and in addition has lent invaluable help on technical and photographic problems. Whatever technical merits the book may have stem in great measure from Dr. Fejos. The Oregon branch of the Constitution Laboratory is financed by the Rockefeller Foundation, as a five-year project. In consequence, some 10 per cent of the subjects from whom the two Atlases (of Men and of Women) will have been drawn are from the West Coast.

Finally, Dr. Howard P. Lewis has made the Oregon branch of the Laboratory not only pleasant and educational to the writer but productive, and Grace Touraine was kind enough to prepare the index.

W. H. S.

Part One

The Nature of the Somatotype

1

Wanted: A Biological Identification Tag

Physicians are frustrated by a lack of differentiative biological standards, or norms. The medical profession has never had available satisfactory norms even for such an elemental datum, for example, as bodily weight. When asked by a patient what the latter's correct weight should be, the doctor has been in a position to tell the patient only what the *average* happens to be for men of the same age and stature. This is like being told by a shoe salesman what the average shoe size is for men of your age and stature. That average shoe may miss fitting you by half the width of your foot, and the average weight of men of your age and stature may miss your own normal or optimal weight by seventy pounds.

The story is much the same with respect to blood pressure, diet problems, level of cholesterol, or one's statistical chances of running into a particular kind of illness. There has been no established bureau of biological standards to which the doctor could turn for help.

Everywhere the rudimentary efforts toward formulating a science of man have been blocked by an almost fatal lack of norms more differentiative than gross averages derived from unknown population samples which may contain anything from the human counterparts of St. Bernards to human whippets. Every year thousands of people serve as subjects in research projects of many kinds, and countless papers are published reporting the research. Often the reports fail to agree. Not infrequently they are in direct contradiction of one another. A vast industry of research thus tends to cancel itself out and to be wasted.

Much of the waste is traceable to failure to record *who* the subjects in the various experiments were. That is to say, who they were in terms of a taxonomy that would give them identification tags capable of systematizing and relating the whole flow of research on human beings.

The somatotype is intended as a kind of identification tag aimed at precisely this goal. The somatotype identifies a person as belonging to a biological group or family which appears to be world wide in distribution and cuts across all of the more or less uncertain boundaries by means of which men have attempted to divide themselves according to race, coloring, head dimensions, physiology, blood type, geographic birth and so on. The somatotype does not replace these common and conventional identifications but cuts across them, binding and relating them. By providing a universal frame of reference it attempts to lay a foundation for adding meaning and usefulness to human description in general, thereby serving the function of a general human taxonomy.

In one sense the somatotype concept offers an early and rather crude tool fashioned to reflect a basic structural orderliness which can be perceived in human life. Despite the confusion now rampant in the social interrelationships of the species, underlying the social chaos is a matrix of organic order, which is to say, of beauty and truth. We are still being born into a world of such beauty as staggers imagination and beggars speech, and the physical reality that a man is carries the stamp of truth even when the beauty is obscure to perception. In such a world it seems reasonable to suppose that there should be a way of so truthfully reflecting a man's structural self that the reflection will blend with the continuum of order like faint music. The somatotype is therefore a groping for a reflection in man of the orderly continuum of nature and in a more specific way it is also an attempt to identify the music of one's own particular dance of life.

2

A Preliminary Exploration

The original experiment in somatotyping was undertaken to try to provide biological identification tags in a field where no comprehensive taxonomic system had yet been applied. That experiment has been reported in detail in the first volume in the series, *The Varieties of Human Physique.*

Factor analysis studies of transverse anthropometric measurements, these measurements being expressed as ratios to stature, indicated the presence of three seemingly primary components in human morphology. Earlier factor analysis carried out on the expression of temperament in students at the University of Chicago had revealed three primary components which had behaved statistically in a way remarkably like the basic components of morphology. Therefore the possibility was already in our minds, at the time when the first exploratory somatotyping study was set up, that the somatotype might be expressing at an overt structural level some basic biological pattern which was also being expressed at other less overt levels in the behavior of the subject. This idea is developed at some length in *The Varieties of Temperament,* second volume in the series. It has been a central concept underlying constitutional research.

For the original study in somatotyping, 4000 college students were photographed in the standard manner described in Appendix 3. We now had a cue from factor analysis that three primary components might be present. That is to say, we had statistical substantiation of the not very radical hypothesis that human shapes, which existed in three dimensions and changed through a fourth or time dimension, might be usefully classifiable along three more or less orthogonal axes. We reasoned that if such a classification should yield a taxonomy of biological patterns showing statistical reliability and validity, the next problem would be to try to determine whether there is any continuation of the patterning through the dimension of time; or whether the human constitution perhaps varies willy-nilly, passing as it were from the St. Bernard pattern to the whippet to the Chihuahua and so on, back and forth, in response to whatever influences may happen to play upon it.

The immediate task was to determine whether the 4000 young men at a common age level (college age) could be arranged in a three-dimensional distribution which would offer promise of leading to a useful taxonomy. The first step would be somehow to identify the primary variables to be quantified, and then to array the whole series of 4000 in separate orders, each order expressing a gradation of one of the primary variables, or primary components. With these steps taken it would be an easy matter to apply a numerical scale to each primary component and we would have, for each youth in the series, a tentative identification tag expressible numerically and offering at least the temporary scaffolding for a taxonomy.

The detailed procedures followed in these early steps were published in the first volume of the series. They have been taught and critically examined for more than a decade. To review them again in detail would be to expose old readers to unnecessary repetition. New readers are referred to the volume mentioned, and in Appendix 1 will be found a glossary of definitions of the very few new terms that have been introduced as the work of the Constitution Project went on. One minor point not developed in any of the earlier volumes but often mentioned by reviewers and critics concerns a certain similarity between the method of originally arraying the standard photographs in order to lay out a kind of periodic table for the somatotypes, and Mendeleyev's procedure in laying out a periodic table for the elements.

Mendeleyev used a set of white rectangular cards, as we did. On his cards were written the names and observable properties of all the known chemical elements. On our cards were printed the names and observable structural characteristics of all the young men in the experiment, in addition to the photographs themselves. Reshuffling and rearranging his cards, Mendeleyev sought to establish sequences by which the cards would fall into meaningful series when read both left to right and up and down—like crossword puzzles. He worked in two dimensions, we in three, but he was able in this manner not only to indicate the general direction of what later proved to be objectifiable sequences, but also to locate gaps in the sequences—blank spaces in his rows of cards—and to predict in detail the nature of elements then still unknown. Three such elements, all filling the specifications of his gaps, were discovered during Mendeleyev's lifetime, and since his death *all* of the blank spaces in his table have been filled. The blank spaces in the somatotype table have not all been filled as yet, but neither have we yet been dead for long.

The only way in which the table of the somatotypes could have been laid out *initially*, so far as I know, was the way in which it was done. No prestidigitation of statistics based on linear measurements alone would do it, since the components we had to measure are expressed simultaneously along three structural axes, and a metric diameter is only a linear distance in a single dimension. But by arranging, and many times rearranging, the photograph cards in series it was possible to arrive at a perfectly true to life progression from maximal to minimal endomorphy (definition, p. 337), and then similarly for mesomorphy and ectomorphy, the other two primary components. What we had, then, after the initial application of the "Mendeleyev method," was a record on the back of each card indicating its place in the progression from maximum to minimum, for each of the three primary components.

The next step was to translate these unwieldy ordinal sequences, which of course applied only to that particular series of cases, into intensive scales with which people could work and by means of which any population could be somatotyped. The theoretical considerations involved in the selection and standardization of a scale intended for these purposes are reviewed in Chapter 5 of *The Varieties of Human Physique*. The scale finally adopted was a 7-point one where each step in the progression from 1 to 7 represents an equal-appearing increment in the component measured. The numeral 7 was assigned to the maximal manifestation of each of the three variables, and the numeral 1 to the minimal manifestation. Use of the numeral 1, instead of the numeral 0, emphasized that nowhere in human life is there a total absence of a primary component. Every physique has *some* of all three primary aspects. The 1 in endomorphy, for example, indicated merely that this was the *least amount* of endomorphy found—the most extreme endopenia.

The numeral 4, in any component, marked the apparent mid-point in the progression from the most extreme lack (the 1-level) to the most extreme expression of the component (the 7-level). The numerals intervening between 1 and 4, and between 4 and 7, marked subjectively equal increments of progression in morphological expression of the component. It is to be noted that up to this point we are dealing with a still fluid and adaptable descriptive device—as fluid and as easily rearranged as were Mendeleyev's cards for his periodic table.

There has been confusion over the meanings of subjective and objective procedure. Actually, what is subjective, or subjectively acceptable, is what falls in order or makes sense to an observing human intelligence who is the subject. A subjective measurement or judgment is in practice one made by using all of the available senses, insofar as possible, and arriving at a tentative assignment to the class or classes in which an object may belong. In the subjective judgment tentativity is of the essence—flexibility, readiness for further change and adjustment. In the whole development of natural history, which is inclusive of biology and of medical science, tentative or subjective classification has always preceded and accompanied the use of what are called the objective tools of measurement.

Objectivity implies a scaled measurement of the object, which is to say, a use of scales that are somewhere recorded and thereby standardized. In human consciousness there is of course no such thing as perfect objectivity, for the reading of a measurement on a scale, in millimeters, pounds, spectral position or decibels, is always in the end a subjective act—a translation into a language of what is seen, heard, or tasted and so on, and an assignment of the translated result to a class. The operational difference between subjective and objective measurement is that in the latter case the subject relies on the reading of one or more *already standardized* tools of measurement.

In nearly all branches of science the general rule is to move out from subjectivity to objectivity as fully and as quickly as the nature of the problem will permit. So stated, it is a good rule and certain problems in some fields (like engineering) permit of almost "foolproof" objectivity. But another good rule would be this: Retain the flexibility and tentativity of the subjective commitment as long as your problem requires it.

The scale used for the *first* ordering of the tentative somatotypes was a subjective, intensive 7-point scale. An intensive scale is one in which some operational procedure is followed for assigning values to progressive units or steps in a series whose order is already known (see p. 115, *The Varieties of Human Physique*). The operational procedure followed in this instance was the method known to psychologists as that of equal-appearing intervals. We now recall that the 1-points and the 7-points were determined automatically by the first ordinal arrangements of the series of photographs. The 4-points were located tentatively by what psychologists call the method of (subjectively) bisecting a psychological distance. Assignment of the 2-point and 3-point positions, and the 5-point and 6-point positions, was carried out in this same manner except that it was now a matter of trisecting the distance (between 1 and 4) instead of bisecting that between 1 and 7. With this step the 7-point scale took form and might be said to be in its first moult. The intervals between all of the numerals of the scale were subjectively equal ones. There now appeared to be just about the same difference in endomorphy between the 2-point and the 3-point level in that component, as between any other two adjacent numerals on the scale—and similarly for the other components.

Having a scale, the next problem was to try to use it, and in using it to refine and stabilize it until it would appear to offer a scaffolding secure enough to support heavier and more unwieldy building blocks which would establish the *objectification* procedures. It was desirable to keep the scale subjective as long as possible for precisely the reason that a builder erects his temporary scaffolding before he brings in the heavier stuff—the steel and stone—that is really to constitute the final objectification of his building.

Therefore we now sought a communicable, objective procedure to standardize somatotyping.

It will be remembered that the *first cue* to the possibility that a somatotype of three components might be used as a valid taxonomic tool came from factor analysis, and at two levels (p. 5). The correlation charts both for traits of temperament and for transverse and depth anthropometric measurements expressed as ratios to stature had given indication of the conceptual usefulness of three primary components as a frame of reference for describing the human constitutional makeup. The question had already suggested itself: Since the intercorrelations among these transverse measurements originally reflected the three primary components, might not such measurements—some more than others, of course—correlate closely enough with the respective primary components that some of them, perhaps taken in groups or patterns, would serve as criteria for the now needed objectification of the definitions of the somatotype?

It was soon found that with projection equipment, needle point dividers and a fine steel rule, there was no great difficulty in taking transverse measurements from the negatives with greater reliability than I, at any rate, had ever been able to achieve in taking measurements on living people. Using a test sample of 200 extreme examples of the tentative somatotypes, we took transverse measurements of every part of the body at every possible level. These were all expressed as ratios to stature. They were plotted to find which measurements revealed maximal contrast between widely different somatotypes as the latter were already tentatively arranged. This laborious undertaking, already described in the first volume, need not detain us here. The outcome of it was that by matching objective measurements against subjective somatotypes, and vice versa, it proved possible to sharpen and objectify the definitions of the somatotypes and ultimately to select a relatively small number of measurements which could in fact be used for *determining* the somatotypes, in young men of college age, in an almost perfectly foolproof (objective) manner.

The procedure for this step of objectification was in principle simple. After somewhat more than three hundred different measurements had been tried and plotted against somatotypes it was an easy matter to select about 10 per cent of them (32) that appeared to reflect the subjectively manifest somatotype differences most sharply. These 32 measurement ratios were then used in an experiment which was set up to test the question whether or not it might be possible by working *blindly*, without even looking at the standardized photograph, to determine the somatotype from the pattern of the purely objective metric data. If this would work, with so small a number of measurements as 32, then by using a larger number of measurements it would obviously be possible to bracket the somatotype more finely and to express it on a finer scale than the 7-point scale tentatively used in the preliminary experiment. For statistical convenience and also in order to derive an objective measure of dysplasia (definition, p. 337), we now arbitrarily broke up the body as a whole into five regions: Region 1, head and neck; region 2, the chest, or trunk above the diaphragm; region 3, arms and hands; region 4, the abdomen, or trunk below the diaphragm; region 5, legs and feet.

The 32 metric indices used at this stage in the experiment had been selected in such manner as to yield at least three antero-posterior diameters, and as many lateral or transverse diameters, within each of the five bodily regions. The procedure for using these metric data in groups or patterns, as it was worked out for this stage of the study, is outlined on pages 81-97 in Volume 1, although at the time when that section was written, in 1939, the 32 measurements had been reduced to a skeletal minimum of 19 (including height and weight).

Our academic year 1938-39 was one of anthropometric industry. Almost the whole of this year was spent on the problem of the metric objectification of the somatotype, that is to say, on the tedious business of taking measurements, plotting them, matching their patterns against the putative somatotypes, and then trying other measurements or correcting the somatotypes or both. The upshot of this anthropometric industry at Harvard was the standardization of a set of 17 ratio indices which, together with weight and stature, were shown to suffice for the objective somatotyping of young men of college age, on a 7-point scale. These measurements are described and illustrated on pages 50-58 in Volume 1.

Toward the end of the year 1939 Dr. S. S. Stevens, then a young instructor in psychology at the University, found the somatotype idea interesting. After observing the laborious way in which it had been necessary to try out, by trial and error, the various patterns of measurement indices, in order to pick up the metric trail of a somatotype, he suggested one day that he thought he could build a machine that would somatotype. A fortnight later he unveiled the machine (picture and description, pp. 103-5, Volume 1).

The machine contains a switchboard with 76 switches, representing the 76 somatotypes then known to us. On a vertical panel are 18 rows of lights, one row for each of the 17 anthropometric indices and a row for the index height over the cube root of weight. Corresponding to each value of each index is a light below which is printed that value. A slider with 9 holes in it is provided to be moved along each row of lights. The switch for each somatotype turns on in each row the light corresponding to the value of the index appropriate to that somatotype. In other words, the whole range of each of the 18 tables of indices actually used in objective somatotyping is wired into the machine—somewhat more than 1300 separate wires. In using the machine, the operator first moves the center of each slider on the vertical panel to a position coincident with the value for the actual metric index, which has been previously calculated, for the subject now to be somatotyped. Then the switches for the various somatotypes are closed in turn until the one is found which controls the series of lights falling nearest the centers of the sliders. The holes in the sliders are numbered outwardly from the center in both directions so as to facilitate the determination of the nearness of each somatotype to the central point on the slide for that particular index. The somatotype is identified by that switch whose pattern of lights deviates least, in the total, from the centers of the slides. The somatotype is calculated for each of the five bodily regions separately, and the five partial somatotypes are averaged for the final determination.

This is almost perfectly foolproof somatotyping, although heavily laborious. It is rather like playing the piano by first working out the physics of each note with a slide rule and then striking the note with a percussion hammer to avoid the subjectivity of the finger contact. By this method a blind man could somatotype if provided with the measurements of a subject, and we once contemplated setting up a demonstration with a monkey turning on the switches—to show that the method was quite objective. However, even at this level of objective somatotyping an intelligent subjective judgment will greatly facilitate the process. If the operator will but glance at the photograph to be somatotyped he can of course determine the approximate area on the keyboard in which to begin turning on the switches, and so might beat the monkey.

The Harvard somatotyper is a sound device, so far as it goes; it will demonstrate objectively (though laboriously) what the somatotype of a college age youth is if no gross pathology is reflected in his physique and if he is at normal or average nutrition for his somatotype. Using a sample of 100 cases taken at random from the larger series, we found that the machine assigned almost exactly the same somatotypes that had already been designated as a result of the extensive procedures previously employed. With a graduate student from another department running the machine—a youth who had never heard of somatotypes but had been given ten minutes' instruction and the necessary metric indices—the machine somatotyped the 100 cases in such a way that the correlation with the "established" somatotypes for the same cases was +.94. But this of course is only equivalent to saying that it is possible to extract from the machine what had previously been put into it. The difficulty is that most of the people you want to somatotype may not be young men of college age, of normal nutrition and free from gross pathology. The machine, having only about 200 brain cells, was not prepared to cope with such mind-stretching variables as age, sex, nutrition and pathology.

It will be recalled that the original aim in the experiment of somatotyping was to try to standardize something like a biological identification tag by means of which current research in all biological fields can be brought into systematic relationship so that norms can be established. The somatotype could serve such a purpose only as a dynamic, not as a static concept. If we were to mean by "somatotype" only some fixed set of metric proportions, applying to living individuals but transitorily and under a specifically fixed condition, the concept of the somatotype would offer no advance over the long list of previous abortive attempts to imprison the individuality of a dynamic and pulsing organism within the confines of rigid receptacles constructed of inches or millimeters.

It was clear that the somatotype, to become metrically a single fixed system, would have to be killed. That is to say, it would have to be deprived of continuance in the time dimension and be made static. One would not then be working with a taxonomy of somatotypes at all, in the proposed dynamic sense, but would have a taxonomy of purely static phenotypes. Such a classificational device would retain its academic interest, undoubtedly, but biologists concerned with the continuing scene of life would find it useless. It would be possible to teach young biologists to somatotype, in this static and restricted sense, but the instruction would be of a value comparable to that received by a certain stutterer who, after a year at a school for stutterers, could recite perfectly, "I climbed to the top of Pike's Peak and ate a Dill pickle." The stutterer went on to add, "The t-t-trouble is, it f-f-fits into the c-c-conversation so d-d-damn seldom."

The academic exercise of applying to college youths a static taxonomic schema, three-dimensionally quantified, was brought to one kind of successful conclusion with the Harvard somatotyping machine. So far as the somatotyping of 18-year olds went, we had found that it could be done with statistical reliability and validity. The half dozen people who had taken the time and trouble to familiarize themselves with the somatotype distribution and to learn to somatotype at the 18-year level, now could all do it well enough that the correlations between their somatotypes and those returned by the machine were consistently above +.90. Similarly, their intercorrelations among themselves were consistently at this level. But meanwhile a procedure for somatotyping had been set up which was many times faster and more efficient than that of taking metric measurements and running indices through the machine. The new procedure made use of an objective frame of reference and also of inspectional examination of the photographs.

The new objective frame of reference was simply a table showing the distribution of the known somatotypes on the criterion height over the cube root of weight. This is the table shown on p. 340 for the 18-year age level and it was at that time—1939—the only height-weight table available. The tables included on pp. 340-344 for the later age periods have been more recently worked out.

To somatotype by the new method the first step was to read off an individual's height over cube root of weight from a nomograph (p. 350) and then to turn to the height-weight table to see what somatotypes occurred at that height-weight level. There would be two or three, or perhaps four or five reasonable possibilities. In other words, by first applying the height-weight criterion the field of possible somatotypes was at once reduced to a very few. The final step consisted in examining the photographs with a view to determining, by comparison with an established file of somatotyped photographs if necessary, just which of the possible somatotypes the one in hand most closely approached. This is essentially the procedure we still follow, although now height-weight tables are standardized at five-year intervals for all age levels through 65, and of course we have a more extensive background of experience against which to judge a photograph, and a better file for comparison. The series of 1175 included in this Atlas constitute in themselves a fairly good reference file for somatotyping the male.

If the weight history of a subject is accurately known, and it is established that the man was not photographed while in some abnormal deviation from his own height-weight-age progression, then the height-weight table for that subject's age will yield an objective and accurate clue to the somatotype. In somatotyping people in the later age brackets the most important step is to reconstruct the weight history. But we are getting ahead of the story.

To summarize: A somatotyping machine had been constructed. It worked, but unfortunately it lacked a sufficiently flexible adaptability, or a sufficient brain, to somatotype except where age, sex, nutrition and pathology were all rigidly controlled. It yielded a purely static, not a dynamic somatotype, thus exacting the price of life itself for an inflexible metric objectivity. Such a somatotype was but intermediate to the game we sought. We wanted a biological identification tag not reflecting a closed and therefore dead metric pattern but reflecting whatever of dynamic predictability and order might be readable in a living organism. We intended the somatotype to be not a name for a pattern of fixed metric ratios, but a tag indicating a course or trajectory through which a living organism could be expected to travel under given circumstances. One identifying incident in that trajectory would be the metric pattern found at a particular point in time and under particular conditions. This metric pattern would of course change with time, and so far as metrics is concerned the somatotype would be not a static pattern of measurements but a formula predicting the entire course of the change. Moreover, the method of qualitative observation, widely employed in anthropology and pathology, as well as in natural history, permits the concept of the morphogenotype to be extended to wider areas of investigation than that of the somatotype itself.

The early explorations in somatotyping had been designed to yield an answer to the question, If you take the living human organism and hold under control the four varying factors of sex, age, nutrition and pathology, will you find, in a large sample, a simple, meaningful morphological distribution? This had been a crucial preliminary question, for if the answer had turned out to be negative, that would have settled negatively the further question as to whether or not an approach to human biology in general could profitably be centered around that particular morphological taxonomy.

But an affirmative answer to the first question did not necessarily settle the second in the affirmative. The taxonomy seemed to work, but its existence had been proved only under frozen or dead conditions. The question now was, does this taxonomy yield any foreknowledge with respect to (a) its own future continuance, and (b) the biological and social behavior of the individual when some or all of the four varying factors just now mentioned are operative under *living* conditions, which are conditions of change? In short, is the somatotype a biological identification tag with an extension into time, and hence with value to biology, or is this merely an instance of one of those out-of-the-way statistical artefacts which before now have distracted and bemused human thought into blind alleys beyond number?

3

A Pilot Study

What seemed to be the spoor of a potentially useful taxonomy of human beings had now been seen clearly imprinted about the college water holes. The next problem was to determine if this same spoor could be found in other places and under other circumstances. Since the four principal conditioning factors of interest to biologists are sex, age, nutrition and pathology, it was clear that eventually the human scene needed to be explored throughout the range of variation of all four of these factors. In the early nineteen forties a pilot study was planned, therefore, which we hoped would explore these areas thoroughly enough to answer the question whether the somatotype might become a useful tool in the study of the natural history of man.

First, the Constitution Project undertook to gather an extensive sample of standard somatotype photographs of the normal adult male at all ages, from 18 to 65. The present Atlas is a report on this phase of the exploration, based on a sample of 46,000 men. Of this number, some 13,000 were students in 31 different colleges or universities at the time when they were photographed. Included are state universities of the East and Midwest; other state and national institutions of education; Ivy League, city and privately endowed colleges. The East and Midwest are heavily represented, the West Coast by only two small colleges. No Southern colleges appear in the sample as such but many Southern college men are included both in the military series and in the defense plant series. As noted in the preface, we are not at liberty to offer more detailed identification. Approximately 12,000 are from various social, industrial, and military agencies of the World War II period, including five defense plants which employed men of all ages. Another 9000 were patients of associated doctors or from the out-patient and in-patient departments of coöperating hospitals and mental hospitals. In this latter series only those photographs are included which appear to be free from any gross pathology, or from any extensive weight loss which would materially affect the expression of the somatotype. The remaining 12,000, chiefly men in the thirties or older, are drawn from volunteers and from industrial and social or vocational groups most of whom have served as subjects or controls in other, related studies with which the Constitution Project has in some way collaborated.

Racially, the 46,000 constituted a relatively unselected sample of our present American population, although in the Atlas the few Orientals we had are omitted. It seemed wise to omit Orientals in the hope that later it may be possible to carry out a satisfactory comparative study of several specific Oriental groups in their native settings. About 7 per cent of the total group are Negroes or Negro-White mixtures, and about 6 per cent are Jewish. Obviously such a sample, while perhaps adequate to indicate the range of variation in human physique, cannot pretend to represent completely a national population. Moreover, as noted in the preface, it is a cross-sectional compromise with a longitudinal problem. Therefore, while relatively few new somatotypes may be expected, the tables of somatotype frequency and of age, height and weight will certainly be modified as more extensive and more truly representative data accumulate. It will also be possible, with a sufficient sample, to present the data within satisfactory racial, clinical, occupational and geographical groupings.

The collection and analysis of this material has been going forward for a decade now, but meanwhile it has been possible also to begin a parallel study of women, and to record some observations on problems associated with nutrition. A brief interim review of the present status of somatotyping with respect to sex, age and nutrition seems therefore in order.

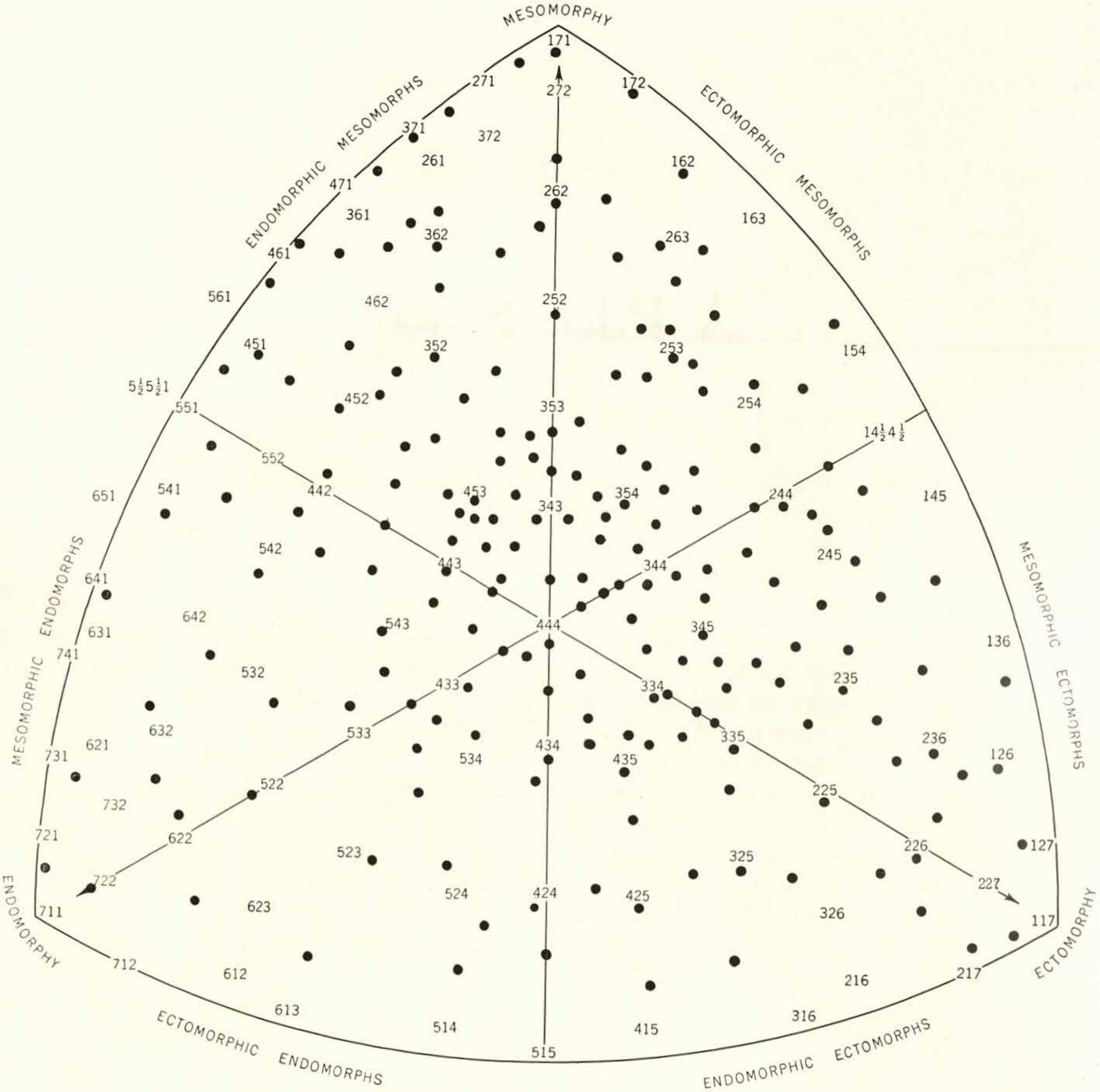

FIG. 1. The Distribution of Somatotypes for a Male College Population of 4000. Each Black Dot represents 20 Cases.

1. The Sex Factor

One of the earliest and most natural questions to arise in connection with the somatotype was, What about women? Do they have somatotypes, and how many and what kind? We have undertaken to answer these questions systematically by starting a survey of the female population patterned after the pilot study of men which this volume reports. *Atlas of Women,* a companion volume to *Atlas of Men,* should be ready for publication within two or three years. Meanwhile it is already possible to compare the two sexes somatotypically in a very preliminary way.

In somatotyping women the first question to consider was whether to use the same height-weight criteria that now constitute a standardized frame of reference for somatotyping men, or to start over again from the beginning and build a new system which would bear no relationship to the system used for males. Both views can marshal good supportive arguments, and both views have had strong proponents even within our own group. Indeed I have been on different sides of this question myself, at different times. That is to say, I had thought of men and women as expressing two different and more or less independent somatotype systems, and in a preliminary way had somatotyped women from this standpoint, using the same method that in the

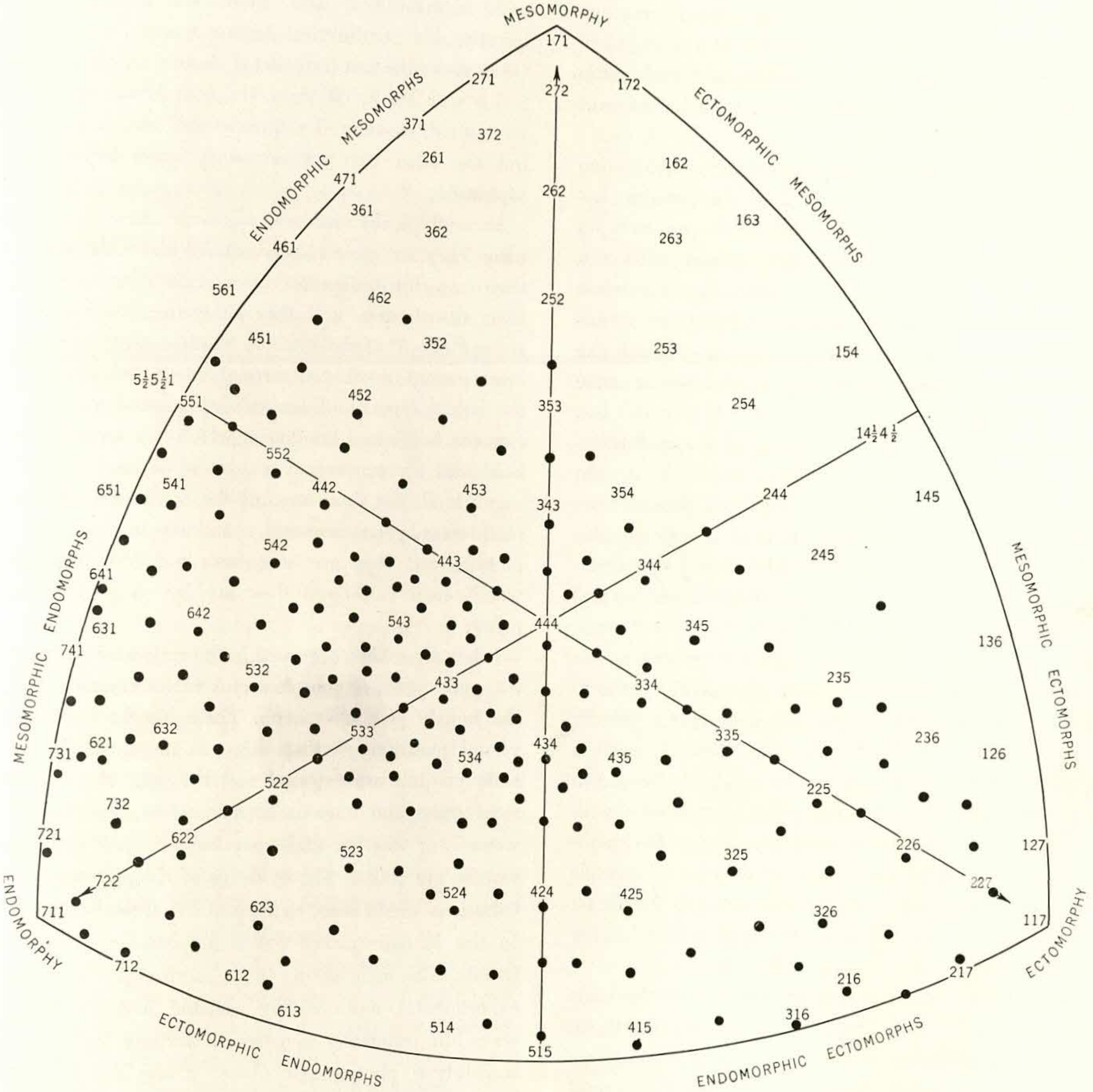

FIG. 2. The Distribution of Somatotypes for a Female College Population of 4000. Each Black Dot represents 20 Cases.

beginning had been employed for men. We had gone so far as to construct preliminary distributions for women, and in the book *Varieties of Delinquent Youth*, Volume 3 in the series, are included a few charts (pp. 784-88) showing tentative somatotype distributions for women presenting different clinical diseases. That early work on the somatotyping of women was based on the presumption that we would eventually standardize a different set of objective criteria for the respective somatotypes in the two sexes.

However, in 1949 it was decided that this controversial question needed to be reviewed. Several of us most intimately concerned with the problem thrashed the matter out. In the end the decision was unanimous. We decided, at least for the present, against the use of two different somatotyping systems, agreed to hew to the line and to let the female somatotypes fall where they would.

Women are so much more endomorphic than men that at all ages they are heavier in proportion to stature. The mean height over cube root of weight for our first 4000 college men was 13.19 (where height is in inches, weight in pounds). For our first 4000 college women this index was 12.84. The commonest male somatotypes are to be found in the area between the 3 4 4[1] and the 3 5 3. Table

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[1] Read as three four four, not three hundred forty-four.

7 shows that these two somatotypes have an average height over cube root of weight of 13.20 at age 18 (13.40 and 13.00, respectively). But the commonest female somatotypes are found around the 5 3 3, with height over cube root of weight at 12.85.

There is a dramatic disparity between the distribution of the male somatotypes and that of the females. Remembering that the original schema of the somatotypes was laid out as a three-dimensional representation of a sample of 4000 men, we would naturally expect that when this three-dimensional structure is projected on a two-dimensional chart, as it is in Figure 1, it would look like a fairly even spread of somatotypes except for some degree of bunching at the center. What it is in fact is a flattened out projection, or shadow, of *three* distributions, each running more or less orthogonally or at right angles to the other two, and each a little skewed from the "normal" bell-shaped curve. It is as if a steamroller had flattened out the depth dimension, but a statistician will quickly recognize even this somewhat scrambled and distorted carcass of his old friend the bell distribution.

Figure 2 shows the distribution for college girls where the latter are somatotyped on male standards. That is to say, where the criterion height over cube root of weight is given the same definitive value regardless of sex. It is apparent that the female population is heavily massed to the Southwestern part of the diagram, as compared with men. The whole region of what for men is the mesomorphic pole is entirely uninhabited, and for this sample of college women, at any rate, the extreme Northeast (endopenia) extends only to about the position of an arc determined by the somatotypes 4 6 1 – 2 4 4 – 2 2 7.

Roughly the Northeasternmost one fifth of the male somatotypes, or a Northeastern area including 16 of them, proved to be uninhabited territory so far as 4000 college women were concerned. In further studies of the general population of women, inclusive of several hundred amateur and semiprofessional women athletes, we have been able to extend these Northern and Northeastern boundaries of the female distribution *a little*. For example, the 4 6 1, the 3 6 2 and the 2 5 2 are probably present, and there are representatives of both the 2 5 3 and the 2 5 4. The 2 4 4 and the 2 4 5 are in the collection. Probably, however, when the pilot study for *Atlas of Women* is completed there will remain a dozen or more of the male somatotypes not represented in the female distribution. This list will almost surely include all of the 7's in mesomorphy and possibly all of the 1's in endomorphy.

But on the other side of the ledger the account will be approximately balanced. Already identified with certainty are six *new* Southwestern somatotypes not found in the male distributions, and there are as many more questionable possibilities. Among women, for example, we have for the first time met such somatotypes as 5 2 5, 6 3 3 and 7 2 3. Of these the 6 3 3 was once, on a faint scent, considered a questionable male somatotype, but the other two are seemingly quite beyond male aspiration.

Somatotypically, women are more conservative than men. They are more closely massed about the center of their own distribution, are rarer at the extreme edges of their distribution, and they altogether avoid the "no woman's land" of the extreme Northeast. Men are found more evenly distributed throughout the whole range of the somatotypes, and are thinly scattered even in the extreme South and Southwest which is a female stronghold and for consistency ought to be an inviolate no man's land. But these men of the South and Southwest tend toward gynandromorphy[1] and also toward gynandry of behavior. They are in quite a real, structural sense women-men (although they are by no means ladies' men).

It has often been observed in the endocrine clinics that the male gynandromorph seems to be commoner than the female gynandromorph. There has been a controversial question whether this was merely because the male genitals are external and the condition therefore more overt and obvious in men while more covert in women, or whether males are in fact more gynic than women are andric. The evidence of the somatotype distributions would seem to support the second alternative. In the human species nature appears to cloister the female. The male seems to be more expendable, more experimental, more widely variable, and his variation takes him frequently into female territory. Judging from somatotype photographs alone, it would appear that there must be many times as many males who might successfully impersonate the typical or average female as there are females so closely resembling the average male. Somatotypically there are perhaps ten times as many men who reach 5 in endomorphy as women who reach 5 in mesomorphy.

One advantage of somatotyping against a single standard, instead of against the double standard which we first attempted, is that these comparisons and contrasts are brought out more clearly. A second advantage resides in the fact that the piano of the somatotypes, played with one keyboard instead of two different and conflicting ones, is now an instrument which with practice, and possibly with an initial gift toward the "music of natural history," can be mastered—to the great inward joy of the true naturalist.

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[1] Bisexuality. For definition see p. 338. Instead of the terms gynandromorphy, gynandry and gynandrophreny some writers would use androgynomorphy, androgyny and androgynophreny. These latter terms put the man ahead of the woman, which may be advantageous, but also they are a syllable longer which is disadvantageous.

A good somatotyper of course learns his height-weight tables at their different age levels "by heart." That is to say, he knows exactly where each of his 88 known somatotypes falls without having to look it up each time, quite as a piano player knows where his 88 keys are, also without having to look. Mastery of 88 keys, when they all fall into a system and an order, as is the case with both the somatotypes and the piano keys, is well within the reach of the average sufficiently interested and moderately gifted human being. But to alternate between two pianos presenting two unrelated or conflicting sets of keys —well, sadistic psychiatrists have been known to do things like that to rats ostensibly to observe the direction of the psychosis.

A third and crucial advantage in somatotyping with a single keyboard is that this solves the previously distressing problem of what to do with the intersex variants—the gynandromorphs and hermaphrodites. If you are somatotyping against two conflicting systems, and are aware that not only the extreme gynandromorphs but in fact everybody must be considered as expressing some of the characteristics of both sexes, the procedure of somatotyping tends to become more an exercise in conflict resolution than the harmonious transcription of a musical theme to which it might be likened.

In favor of the original plan to use a separate somatotyping system for women were two principal arguments. First, it was very early recognized that since the two distributions were not going to coincide, some violence would necessarily be done to the scale itself if it were required to cover both distributions. Consider the primary component mesomorphy, for example. On the single scale, men vary from 1 to 7, but women only from 1 to 6. With a single scale, the level of 6 in mesomorphy has the same absolute value for both sexes—in both cases there is the same amount of mesomorphy, at least in theory. But in the case of women we are then using only a 6-point scale for that component, and are "wasting" the highest rung of the ladder. The answer to this difficulty, apparently, is that not we but nature wastes that highest rung for female mesomorphy. We only measure the extent of the waste.

Similarly, among women the 1 in endomorphy is so very rare, if it occurs at all, that for practical purposes at any rate the lowest rung of *that* ladder is wasted. It has been suggested that by these curtailments of the scale some of the statistical meaning and usefulness of the latter is lost, or that the resulting 6-point scale is too coarse for optimal description in this field of data. The answer is that in practice, almost since the first beginnings of somatotyping, we have been aware that even the 7-point scale is too coarse, and have in fact used a 13-point scale. That is to say, in somatotyping a person we always use the half numerals and have long known that the "psychological distance" between, for example, a 5½ and a 6, especially in the second or third component, is as easily perceived and measured as, for example, the distance between pink and red. I might add that a football coach who could not distinguish between a 5½ and a 6 in mesomorphy would be unlikely to win games.

In glancing through the photographs included in this Atlas the reader has perhaps already noted that the scale used is thus in fact a 13-point scale. It has seemed less awkward however to keep the language of somatotyping within the frame of reference of the original 7-point scale, and thus to speak of an individual as a 2 3 5½, rather than refer to him as a 4 6 11. The latter sounds too much like football signals. Moreover, there is now an extensive literature on somatotyping, all of it centered on the original 7-point scale. To change that frame of reference would be unnecessarily confusing to many who have learned to recognize 2 3 5's, 6 5 1's and so on, and such a change would in itself be wasteful.

The second argument for somatotyping women against standards of their own is both more obscure and more difficult to dismiss. It seems reasonable to suppose that because of the sexuality factor and the endocrine and metabolic differences associated with it, there may be in the two sexes a *different expression* of whatever quantitative strength in the primary components is present. It is particularly with respect to mesomorphy that this question has often been raised. Suppose that a girl and a boy each rank at the fiftieth percentile in mesomorphy, for the respective sex. Should not the scale reflect this rank-position for the sex in question, rather than (as we now do it) for the whole distribution which includes both sexes? By failing to treat the two sexes independently do we not lose *comparability* in the somatotype? As we now somatotype, for example, the 3 4 4 in the male is the commonest somatotype on college campuses and although no weakling is far from being an athlete. But among women the 3 4 4 is a rarity and a powerhouse from the far Northeast—a somatotype encountered regularly among top ranking women athletes. Would it not be better if the concept 3 4 4 were to refer to something comparable in the two sexes?

The answer is yes, it is most desirable to reflect this comparability, but perhaps there is a better way to do it than by sacrificing the advantages gained by using the somatotype concept in the other way. It can in fact be done quite simply, after the somatotype standards for women are fixed, by translating the distribution on each primary component into a percentile distribution. By doing this it becomes possible to arrange tables for each sex, by means of which any somatotype can be translated immediately from three numerals to three percentile rank standings. A useful comparability, for such purposes as studying sibling and twin comparisons and for genetic research, is achieved by the parallel percentile matchings. This is the same comparability, precisely, that would have been achieved if we had continued to somatotype women with direct comparability in the somatotype.

2. The Age Factor

The principal immediate purpose of the pilot study on which this report is based was to explore the different age levels among living men in order to find out what the various somatotypes do and how they fare as life progresses. It was in one sense fortunate that we had undertaken such a study just before World War II started, for the war provided an opportunity not only to use the somatotyping procedure in a preliminary way for selection and guidance in several military fields, but also an opportunity for the somatotype to begin to grow up, as it were.

Between 1941 and 1945 our own teams from the Constitution Project or their immediate associates were able to take standard somatotype photographs of about 12,000 men in different branches of military and civilian service. Before 1941 we had studied mainly college youths with a mean age at about 18 years, had become fairly well acquainted with the male phenotype presentation at this age level and had gained an impression that behind the phenotype lies some deep-seated factor of constitutional patterning which continues to operate throughout life.

But technically this had been only an impression. We now had an opportunity to ascertain whether the somatotypes were still there in representative samples from the early and late twenties, from the thirties and forties, and in the case of a few hundred of the civilians, from the fifties and sixties. More important than the mere photographing and somatotyping of this fine sample of men, there was a chance to get a good history on most of them. In the early stages of this phase of the study I was mainly concerned with the somatotyping of those young men who were in their twenties, and there were many thousands of these. The aspect of the individual history of greatest interest to us, apart from the medical record, was the weight history. Weight histories were now taken on every man photographed, and since in almost all instances the men were under some pressure to make a good impression on the doctors, for one reason or another, coöperation was excellent. It was found that most young men know their weight history between 18 and 25 fairly well. (What they do not know, usually, is the weight history during the half dozen or so years just preceding that period.)

The problem of somatotyping men in their twenties, when their height-weight ratios for the college age period were thus also available, was simple enough and orderly enough to be a pleasant task. Moreover, with the weight histories as a frame of reference it was an easy thing to begin at once to construct the urgently needed height-weight tables for the twenties, and even for the thirties, as we now went along. By the time I had somatotyped the 12,000 men who made up this total series the foundations were well laid for all the height-weight tables for the age span 18 to 35. It was of course the common somatotypes that were most needed for these height-weight tables. Once you get the common ones in sufficient number it is easy enough to locate the tabular positions of the rare ones by simple interpolation.

It was thus that the Constitution Project graduated from the ivory tower of its cradling. By first somatotyping the men in their early twenties and checking back constantly to their weight histories for the frame of reference, it was possible not only to be reasonably sure that the somatotypes were right but also to build a table of height-weight ratios which would be dependable at this next age level. With that step taken it was similarly possible both to somatotype and, more important, to *learn* to somatotype at the level of the late twenties, and then at the level of the early and late thirties and so on. By this odd-sounding statement I mean merely to emphasize that somatotyping, like playing the piano, is something that you learn to do only by having done it. You have learned it when you find it impossible to do it otherwise than almost perfectly right.

For learning to somatotype at the later age levels there was one more orientational device in addition to the height-weight tables that were being built as the project went on. This was the frequency table, or table of rarity for the different somatotypes (see p. 30). By constantly checking the common somatotypes against the college frequency table we felt protected from going *far* afield in somatotyping at later ages. From the college series we knew at least the approximate frequencies in the colleges for all the relatively common somatotypes (Volume 1, p. 268).

About 50 per cent of the new series had attended college at an undergraduate or graduate level, and the series as a whole offered what appeared to be a good statistical sample of both college and non-college personnel. Between these two groups there were minor somatotypic differences but the trend of the differences is well summarized by the generalization that the college men shifted a little to the Northeast, and the noncollege men a little to the Northwest. In general, the population that had not been to college was of slightly heavier, more blocky or ectopenic build.

When later an extensive sample of a population which was mainly noncollege was photographed, this trend was found accentuated, and several Northwestern somatotypes that were new to us appeared in some numerical strength—somatotypes of which only suggestive traces had been found in the colleges. The 4 7 1, 5 6 1, 6 5 1 and 7 4 1 were cases in point. None of these four somatotypes had been identified or known in the early days of college somatotyping except by faint traces ("overly heavy" 3 7 1, "overly powerful" 5 5 1, a "7 3 1" who played guard on a college team, and so on).

The third volume of the Human Constitution Series (*Varieties of Delinquent Youth*) written in the late nineteen forties, added these four extreme ectopenes to the original 76 somatotypes, bringing the total to 80. But that was not the end of the awakening. When a comprehensive review and a resomatotyping of the whole male series of 46,000 cases was begun, preparatory to the publication of this present volume, it was soon found that there were still some notes missing from the keyboard of the somatotypes. Actually eight more new somatotypes had to be added before our Augean stables were finally cleared of the grave accumulation of "hard-to-somatotype" photographs that a decade of the pilot study eventually brought together.

The fact that all but two of the eight latest additions were found in the relatively ectopenic West edge of the distribution gives some indication of the extent to which these heavy organisms predominate in the general American population, as compared with the college population first studied. The eight new somatotypes to be added were the 2 2 7, 2 7 2, 3 7 2, 4 6 2, 5 5 2, 6 4 2, 7 2 2 and 7 3 2. These brought the total to 88, an increase of 12 over the original 76 described in the first volume. The 2 2 7 is from the polar Southeast, the 2 7 2 from the polar North, the 7 2 2 from the polar Southwest, and the other nine are from the West coast.

The question will naturally occur, "Are there even more of the normal male somatotypes still to be discovered?" The best guess would be in the affirmative. If the sample were doubled it is surely probable that a few more extreme rarities would turn up, and it is not impossible that if the whole sample under present discussion were to be reviewed again we might find (to our astonishment) another somatotype or two unaccountably overlooked in all the previous reviews.

What can be said with assurance is that the entire sample reviewed can be fairly well encompassed within 88 somatotypes, and that the existence of all of these 88 can be defended. All are illustrated in Part Two, and in only two instances, the 5 1 5 and the 7 1 1, does there seem to be a possibility that the examples could with any reasonableness have been attributed to other neighboring somatotypes.

As the height-weight tables for the later age groups were gradually built up it was inevitable that we would become aware of certain dramatic differences in the way different somatotypes tended to weather the passage of time. Repeatedly and persistently men of one group of somatotypes would appear in poor condition—prematurely aging, feeble, and jettisoning weight in the fifties or even in the forties, while another group of somatotypes flourished and seemed to grow hale in the fifties and sixties. Interest soon developed in the question of longevity among the different somatotype families.

What the study revealed relative to that question is expressed in the height-weight tables themselves and in the curves of nutrition which accompany these tables in Part Two. However, it cannot be too strongly emphasized that these tables reveal only statistical trends, no more. In the case of an individual, many variables should be taken into account before a prediction of longevity is to be ventured. The somatotype is probably one such variable but if so that may be the result of a relationship between the somatotype and the detailed soundness or unsoundness of vital organ systems any of which, even when correlated with the somatotype, may in individual cases vary independently of that correlation. Thus an excellent cardiovascular system, for example, may exist in an individual whose somatotype rarely is so endowed, and that man will perhaps live to a hearty old age while many men of his somatotype are short lived. It is not the somatotype that causes shortness of life, but specific organ weaknesses with which the somatotype may be associated, and of which the somatotype may possibly in a general way be a reflection.

In reviewing the height-weight tables at the different age levels, and the nutrition curves derived from them, I have made two tentative assumptions both of which need to be tested against a constitutional geriatric study. First, that when the frequency of occurrence of a somatotype is holding steady or is rising in middle age and in the sixties, the indication is that this is a long lived somatotype. Second, that when in addition to numerical shrinkage, the weight curve (mean weight for stature) of a somatotype turns sharply downward this is an indication of biological distress, a sign that the men of that group who are surviving at all are doing so by jettisoning bodily weight. Put in another way, this appears to be a sign that biological old age has been reached, regardless of the chronological age.

Bearing these two signs in mind, examination of the height-weight material at the different age levels will reveal at least four interesting leads for further study.

1. *It is in general the common somatotypes that seem most inclined to be long lived.* In general, the common somatotypes grow commoner with advancing age and the rare ones grow rarer. Turn to Table 2. Read off the somatotypes listed in the column labeled Rarity 1. Turn to their height-weight tables and nutrition curves (included in the 88 introductory discussions in Part Two) and you will have reviewed most of the seemingly longest lived somatotypes. The bulk of the apparently shortest lived somatotypes will be found in the columns labeled Rarity 4 and Rarity 5.

2. *Among men the shortest lived somatotypes are in general the mesopenes*—the whole Southern fringe of the distribution. But the longest lived ones are not the distributional opposites of the latter, not the extreme mesomorphs of the North. There is an apparent tendency for the somatotypes of the "near Northeast" to be long lived. By the near Northeast is meant the 2 5 4's, 2 4 4's, 3 5 4's and 3 4 4's and their near neighbors.

3. *Most of the somatotypes of the ectopenic Northwest show signs of distress in midlife,* and in the forties and fifties their numbers thin out rapidly. These are the people most prone to diabetes and to coronary artery disorders. Yet among these Northwesterners who are so numerous in the beginning there appear to be a certain number of extremely long lived exceptions to the general trend. Many of the *excessively* long lived people we have encountered (centenarians) have come from the somatotypic Northwest (mesomorphic ectopenes). Presumably these are the rare ones who inherited exceptionally good cardiovascular equipment, or possibly some biochemical characteristic which keeps the equipment elastic and in good working order. Biochemical study of a few score of the longest lived ectopenes that could be found might be of the highest value to medicine, for these seem to be dramatic exceptions to a general rule and they may carry an important clue.

4. *The men of the "female" somatotypes, that is to say, of the Southwest, tend to be short lived.* Yet women in general tend to be long lived, averaging about five years longer than men. On its face this looks like a biological contradiction. Women do better than men, yet when men approach women somatotypically, instead of advancing their biological cause they retard it. One explanatory suggestion might be that perhaps it is not the somatotype as such that matters but the relative position of the somatotype in the distribution for the sex concerned. Among men it is the commonest somatotypes and those near the center of the male distribution that seem in general to be long lived, with some advantage lying also with the moderate endopenes of the near Northeast (and with the dramatic exceptions just noted). When men move away somatotypically from these advantageous positions it may be that they do so at their biological peril, regardless of where the most favored somatotypes among women may lie. Perhaps it will be found to be the same with women. Among them too an important factor for long life may be the frequency of the somatotype, while those women closely approaching the positions of the long lived male somatotypes may not do so well. In this field we can as yet only raise questions, and lay foundations for basic research.

One further point concerning longevity has been of interest, although perhaps not directly related to the somatotype. It is common observation that the very long lived men in our American population tend to be short. Moreover, the shortness is not a result of decrement of stature in old age. These men have been short all their lives. Many physicians are aware of this shortness of stature in the very long lived, and there has been much speculation about it. William James, Harvard philosopher who was also a doctor of medicine, was aware of it. He made the suggestion that an explanation might lie in the increased strain on the cardiovascular system imposed by tallness in an animal that has recently assumed an upright posture. James raised the question whether we should not *hold back* some babies during their early years, by judicious underfeeding and by rigorously regulated feeding, thereby to prevent overgrowth or a too burgeoning early growth.

An increase in the upper ranges of longevity may be one of man's most vital needs. If we are throwing away longevity for stature, we are indeed wasting life. Who then are the very long lived men? With the somatotype as a frame of reference it may not be impossible to find out *why* they are long lived.

3. Effect of Nutrition on the Somatotype

It is often said that a man is what he eats, and in a sense this is true. It would be equally true to say rather that a man is what he himself does to what he eats. He acts upon his food and is a phase of the change that results.

The phenotype (literally, the form now appearing) is of course an expression of the state of nutrition, and it is also an expression of an underlying genetic influence which is carried in all of the bodily cells and may be referred to as the genotype of the individual. The genotype is at work throughout the life of a living organism, transmitting its own individual stamp to the new material used for replacement, as it did originally in the first emergence of the organism into its characteristic structure. The life of an organism is an expression of a reciprocal relationship going on continuously from conception to death, between the genotype and the flow of nourishing substance yielded to the organism by the environment.

It would be correct therefore to state that the phenotype of a man is a reflection of the state of his nutrition, and one can say also that a radical interference with nutrition can destroy both phenotype and genotype altogether, by causing death. It would be incorrect to suppose that the state of nutrition during life can exert any effect on the genotype, which by definition is the pattern of genetic influence fixed at the time of conception. We know that a structural genotype (morphogenotype) is at work in every living organism, for otherwise there would be no persistence of structural individuality through life. Not only would endomorphs change freely into mesomorphs and so on, back and forth, but men into mice, and mice into elephants and cabbages, also freely back and forth.

The principal problem of constitutional research, to date, has been to try to throw a preliminary taxonomic illumination on the behavior of the morphogenotype in man. But you cannot deal directly with a morphogenotype. All you can see, or touch, or measure and weigh, is a phenotype. The phenotype is the living body as it is presented to sensory perception at a given moment. The phenotype by definition has no fourth dimension, no continuance in time. Now the phenotype, having no existence in time, is taxonomically worthless since it implies no predictability even of its own continuance. Behind the phenotype, and inside it, is the genotype, the mechanism of continuance.

But to work directly with the genotype is impossible since at present the latter is but a conceptual abstraction. It was necessary therefore to introduce another concept, the somatotype, which is neither phenotype nor genotype but is the reflection of the continuity which apparently exists between these two aspects of organic life.

The phenotype is what shows, now, in three dimensions. It is the most variable end point in the genotype-phenotype continuum. The genotype is a name for the original hereditary and still active genetic influence which lies at the other end of the continuum and, theoretically at least, cannot change once conception has taken place. To somatotype is to try to reflect light on the *fixed* end of the continuum by repeatedly recording the *varying* end of it which is presented to the senses in successive examinations of the phenotype.

The somatotype is by definition a prediction of the future succession of phenotypes which a living person will present, if nutrition remains a constant factor or varies only within normal limits. We define the somatotype more formally as a *trajectory or pathway through which the living organism will travel under standard conditions of nutrition and in the absence of grossly disturbing pathology.* This is to say, simply, that while the phenotype is a purely static and purely objective presentation, the somatotype is a dynamic abstraction from a series of such projections.

Theoretically, if we could record the phenotypic presentation of an individual often enough, and under a sufficiently varying set of nutritional circumstances, or to put it a little differently, if we could somatotype the individual every year of his life, we could very closely bracket the morphogenotype. The way to describe a morphogenotype adequately would be to record the complete history of its performance, including ancestry, relatives and descendants. A good start toward such a record would consist in photographing the phenotype three-dimensionally at regular intervals throughout the individual's life. We would then want to add every reasonably possible physiological and biochemical test, also applied at regular intervals.

The somatotype is a compromise wherein, instead of following the ideal program just indicated, use is made of whatever phenotype presentations actually *have* been recorded, and of whatever other information *is* available, to arrive at a prediction of that part of the trajectory which is yet to unfold. For classificational convenience, in somatotyping, the whole field of the normal trajectories empirically observed is represented as 88 mean trajectories within which it is predicted that the respective phenotypes will (with normal nutrition) continue to travel.

But just how dependably can such a prediction be made? That is to say, how accurately can the somatotype be determined, and how permanent is it? Practically speaking, the Constitution Project is an investment toward answering these questions. Somatotype ratings by different observers yield correlation co-efficients consistently above +.90. Theoretically, the permanence of the somatotype is a definitional matter, and the answer depends on how far your effort toward somatotyping has progressed. If you think of the somatotype as merely ("nothing but") another name for the phenotype, it has no permanence at all. Any nutritional disturbance, even of a minor nature, will change it in some measure. That however is one *reductio ad absurdum.* If you think of the estimated somatotype as an already accomplished close approach to the genotype, it *cannot* change and that is another *reductio ad absurdum.* Between the two absurdities lies the more reasonable question, Is there a degree of dependability (or predictability) in the somatotype as in practice it is actually gauged? That is to say, when we have to depend on only two or three adult phenotype presentations, and a good history, can a predictive somatotype be assigned which will "stay put"?

Some would like to answer that question in the categorical affirmative, fearing that any other answer might elicit an unhealthful complacency among "environmental determinists," a few of whom perhaps come near to believing, as they proclaim, that the somatotype is "nothing but nutrition." But only a good longitudinal study, carried on for at least one human lifetime, would adequately document such an answer.

Ideally, the somatotype would be a reflection of a complete phenotypic and nutritional record of an individual. The somatotype then would in fact approach the genotype and by definition would take on a permanent identity. But this is a far cry from supposing that, with the records now routinely obtainable on human beings, one can always bracket the somatotype accurately at the first attempt. Indeed it is not always possible to make a completely satisfactory clinical diagnosis at the first contact with a patient.

4. The Problem of Norms for Weight

The exploratory task of somatotyping 46,000 men inevitably crossed the trail of many interesting problems in nutrition, for it is obvious enough that there can be no clear division between constitutional problems as such and nutritional problems. There is a continuous interplay between the inner genotypic man and the food that flows through his stamping machines. The outcome is expressed in the continuous succession of phenotypes which we try to summarize as a somatotype. A number of the more conspicuous nutritional trends encountered are commented on in the introductions to the somatotypes in Part Two, but the problem of a general need for differential weight norms seems sufficiently important to be raised even in this brief review introductory to an Atlas.

The speculation that American people as a group may be overweight has often come to public attention. Recently there has been a wave of popular literature on nutrition and diet, most of it suggesting the substitution of proteins for fats and carbohydrates as a way to "eat and grow slim," and some of it also suggesting inhibitory control over the American custom of eating as a competitive sport. There is in consequence a discernible tendency toward an increasing weight-consciousness throughout American society.

This early tendency may be a straw in the wind to a turning of more serious attention to the problem of differential norms for weight and nutrition. The medical profession grows increasingly aware that many of its most baffling problems lie mainly in the populations found in the somatotypic Northwest and Southwest. This is particularly true of some of the commonest forms of cancer, of coronary disease, of gallbladder ailments and diabetes. The heavy, burgeoned people are found both in the medical clinics and as untimely principals at autopsy in numbers disproportionate to their occurrence in the population. It is not yet possible to say with certainty whether their breakdown with medical pathology inheres in their somatotypes, results from being too heavy for the somatotype, or whether in most instances both the pathology and the tendency to be too heavy are expressions of some deeper seated physiological delinquency yet to be described.

In any case there is an inclination on the part of insurance actuaries, and also on the part of physicians, to revise weight standards downward a little, and to advise people to "keep their weight down." There is also a growing tendency toward emphasis on the protein diet for slimming effects. Perhaps both of these tendencies can be fruitful if wisely directed, and harmful if applied blindly. Since it is now possible to determine an individual's somatotype, at least approximately, a blind recommendation regarding weight may be almost as reprehensible as a blind medical prescription. It is true that many doctors are intuitively aware of the patient's somatotype, and of the state of his nutrition with reference to the somatotype, and that even intuitive wisdom is never to be despised. But with the weight tables now available for the different somatotypes it is possible to be differentially objective on the subject of optimal weight, and it may be possible to advise people rationally both on how much to reduce and on how to do it.

For one cue in this matter we may do well to turn to the field of athletics and physical training. Team physicians, trainers and physical educators report that nearly all top-flight or professional athletes "train down" in order to reach a weight where they perform with maximal efficiency. The endopenic mesomorphs from the Northeast tend to find their peak efficiency at a point from 5 to 10 per cent below their average or normal weight-for-somatotype. The endomorphic mesomorphs from the Northwest drop back in weight as much as 15 or 18 per cent in order to reach their optimal muscular efficiency, but if even an extreme ectopene like the 4 7 1 sheds weight beyond that point—more than about 18 per cent below the average weight level of his somatotype—he tends to run into trouble by losing strength. He is then said to be "overtrained."

Watch the fighting weights of the professional pugilists, and the playing weights of the football and baseball big leaguers. You will find that *as an average* these men perform at about 11 or 12 per cent below their normal weight-for-somatotype. Or to put it a little differently, in estimating the somatotype of one of your favorite athletes, add about 11 per cent to his *playing* weight before turning to the weight tables in Part Two for guidance. Suppose your man is a 3 6 2—a very common athletic somatotype—and that he is 73 inches tall. The table on p. 181 will reveal that his normal (average) weight is 221 pounds at age 33. But you will find that your famous first baseman plays at around 195. The 3 6 2, being a little heavier than the average athlete, seems to be at his best at a full 12 per cent below the somatotype average.

Now this is the kind of thing that good trainers "know intuitively" in much the same way that good doctors recognize the somatotypes intuitively and prescribe accordingly. The problem is to translate such information into orderly patterns which can be applied generally and used educationally.

It is possible that the difference between the weight levels at which athletes perform, and the average weight levels at which we find our population, is the measure of a delinquency. Perhaps this is a delinquency of obesity in American culture. When comparable somatotype studies are carried out on other cultures where life remains closer to natural conditions, it may turn out that the somatotype curves will be flatter and that the mean weight levels will be found down in the near neighborhood of weight levels of maximal performance. Early exploratory studies of the somatotypes of Japanese and of natives of some of the Pacific islands, including the Aleutians, indicate that this is in fact the case.

Weight at age 30 may offer a good point of reference for weight control. Doctors often tell patients, after reading off their "normal" weights from the still widely used actuarial charts of 1912, that any variation of 10 per cent up or down is to be considered normal. Some doctors are more generous, allowing a range of 20 per cent up or down. Recently another idea, also first suggested by actuaries, has been gaining headway with the medical profession. This is to the effect that a good point of reference for determining optimal weight in midlife would be one's weight at age 30. Whoever first made this suggestion may have had a brilliant insight.

If we consider the commonest male somatotype, the 4 4 3, and turn to the height-weight table found on p. 219, we see that a man of this common midrange somatotype at the average male stature (69 inches) has a mean weight of 147 pounds at college age. At 30 he has gained about 18 pounds for an increase of nearly 13 per cent, and ultimately, in the late fifties, he will have gained another 18 pounds for a total increase of just over 25 per cent of his original young adult weight. If the weight clock were set back to age 30, the patient would be permitted almost exactly half of his total adult weight gain. He would be reduced from his maximum by about 10 per cent, or by an amount between 12 and 13 per cent of the original young adult average. These figures again bring to mind what many physical trainers already know about athletes, who find their best efficiency at a point falling just about as far below mean weight-for-somatotype as the age 30 level (for the 4 4 3) falls below the mean level for late middle age.

But what about other somatotypes? The case of the extreme endopenes of the Northeast is of course simple. They never gain much weight and they present no problem. Similarly, those somatotypes lying between the extreme Northeast and the midrange 4 4 3 gain *less* than does the latter, at all stages of life, and the weight curve for each of these somatotypes presents its story. In no instance are the percentage proportions of weight gain quite so high as in the 4 4 3. But the somatotypes of chief interest in this connection are the heavyweights of the Northwest and Southwest.

Consider the 4 5 2, commonest of the Northwest somatotypes and a fellow who makes up almost 5 per cent of the male population. At college age and at the mean stature of 69 inches he weighs 161, reaches about 185 at 30, and arrives at his maximum of 207 at around 50 (see p. 232). At age 30 he has typically added a little more than 14 per cent to his weight, and ultimately will add almost another 14 per cent. Again, age 30 is nearly the midpoint so far as weight gain is concerned, and if a 4 5 2 were to train down for athletics, the amount of weight he would shed for optimal performance would probably be in the neighborhood of 14 per cent. The 4 5 2 is rarely a professional athlete, but his very near neighbor the 4 6 2 is often an athlete of high rank (see p. 243), and we know that the 4 6 2 is inclined to shed about 15 per cent of his normal weight for best performance.

Turn finally to the extreme Southwest and consider the heaviest somatotype of all, the 7 4 1. At the mean male stature of 69 inches, which is tall for the 7 4 1, his weight at college age is 258. At 30 his mean weight will be about 355 for a gain of 37.6 per cent, and as an average he will reach his maximal 401 before age 40, adding in all some 55 per cent of his original young adult weight. This is the greatest average weight gain found for any somatotype, and in considering the 7 4 1 it should be remembered that he is at the most extreme position on the distribution—a position to be balanced by such an extreme endopene, for example, as the 1 1 7 who at the same stature gains in the course of his adult life only about 1 per cent of his original young adult bodily weight. If we take the mean of the total gain, for the 7 4 1 (55 per cent) and the 1 1 7 (1 per cent), we find that the resulting 28 per cent corresponds approximately with the 25 per cent achieved by the 4 4 3, a midrange somatotype.

It is at least an interesting coincidence then that when a doctor tells an average man of middle age to consider his weight at age 30 a good goal at which to aim (in his training down), the doctor can summon two plausible reasons for this advice. First, the patient is advised to shed about the same proportion of his weight (12 to 13 per cent) that first-rate athletes routinely do shed to achieve their best performance. Second, when the average man of middle age drops back to his weight-at-30, he goes just about half way back to his first adult weight, thus achieving a "golden mean" between the minimal and maximal adult levels. And for the 4 5 2, a moderately heavy fellow, these proportions also hold. Even if a middle aged 7 4 1 of average weight is advised to fall back to the level of age 30, the advice is less radical than might be supposed. Actually, he is advised to drop only some 17 or 18 per cent of his currently achieved maximum.

4

Individual Differences within the Somatotype

In considering problems of nutrition and normal weights, it may be superfluous to point out once more that the somatotype is only a first step toward describing or bracketing the constitutional pattern of an individual. The somatotype expresses the approximate strength of three basic, or possibly primary components. Beyond the somatotype or peripheral to it, as leaves and branches are peripheral to the main trunk of a tree, are those physiological and chemical individualities which are associated with the secondary components of the personality. Gynandromorphy, dysplasias and *t* component are conspicuous among these secondary variables, and are as apparently fixed or constant as the somatotype itself, but there are more remote variables in personality whose outward manifestations are less easy to follow. One such variable, or perhaps a constellation of them, has to do with the individual's maintenance of his weight curve.

Within the same somatotype group marked individual differences are often encountered with respect to both quantitative and qualitative tastes in food, and also, apparently, with respect to the efficiency of utilization of food and storage of fat. Many people inhibit or restrain their food intake for long periods, thereby maintaining themselves at weight levels below the average levels for their somatotypes. Others practice the opposite extreme, burgeoning at times well beyond their normal levels. In the poorly understood condition called *anorexia nervosa* ("nervous loss of appetite") there is a severe and sometimes fatal intensification of the inhibitory trend, possibly resulting in death by starvation.

While it may appear from the phenotypes that *anorexia nervosa* occurs in ectomorphic girls, it is in fact the midrange and endomorphic somatotypes that are usually involved. Similarly, it is endomorphs (of either sex) who are most prone to burgeon to gross obesity, but occasionally a person of midrange somatotype will behave in this manner. That is to say, an occasional person who for most of his life appears to have followed the trajectory of such a somatotype as the 4 4 3 will burgeon with fat and instead of adding the expected 30 or 35 pounds during adult life, may add more. Especially when psychiatrically unstable, such a person may grow fat quite suddenly. The mental hospitals contain many patients who for years have run a cyclic course, often in a regular rhythm, of acute weight gain and acute weight loss. When the cycle is established, there is a remarkable tendency for such a patient to gain to a level between 15 and 20 per cent above his normal somatotype level, and then to lose to a point about the same distance below that level. It is the manic-depressive and paranoid patients who show this cycloid characteristic, not the hebephrenic patients.

Despite the dramatic weight lability of certain psychiatric patients and of other unusual individuals, the great majority of people appear to follow closely their own somatotype trajectories, or to diverge by less than 10 per cent except in response to severe pathology, starvation or intensive training. In starvation and in serious illness, adults sometimes drop half their bodily weight, or even more, and recover. After recovery they return to their normal somatotype trajectories. On the other hand, an individual who at any time in his adult life *gains* weight to a level more than 20 per cent above the mean for his somatotype is a rarity. I have never encountered a case where an adult had achieved a weight more than 30 per cent in excess of this level, although it is reasonable to suppose that such cases occur. In 1948 we photographed a man who at 37, with a stature of 73 inches, weighed 604 pounds, which was 27 per cent above the mean for his 7 4 1 somatotype at that age and stature (see p. 335). Another 15 pounds would have carried this man across the "plus 30 per cent" line, and cases that almost surely have crossed that line have been reported. But they are rare enough that I have never encountered one.

Typically, during the year or year and a half just before the onset of adolescence, a boy or girl has a "fat period," or period of endomorphic blossoming. At this time the youngster seems to offer a preview, or something like a dress rehearsal, for the shape of things to come later, when in midlife he will have taken on his full complement of weight. At age 11 or 12 the height-weight ratio may then fall to a level approximating that of midlife for the somatotype. But after adolescence begins, the height-weight ratio tends to rise again, whether or not there is the rapid spurt in stature which is characteristic of some somatotypes during this period. A relative slimness ensues and the slimness tends to continue, with individual variation, until the final "filling out" of adult life begins to become manifest.

After adolescence nature slims her children for the mating dance. It is then that somatotyping is most difficult. Even endomorphs, when newly postadolescent, are likely to appear slim to the casual or untrained observer, particularly when the aid of expert clothiers has been enlisted in the cause. Watch an endomorph move and you can almost feel the underlying promise of future expansion. Dance with one and you *can* feel it. But in this youthful period an unobservant eye may fail to read the endomorphic future.

Endopenes remain slim all their lives, even those who appear to eat excessively. For the rest of the population, slimness tends gradually to vanish unless diet or activity, or some physiological inhibitor of metabolism is utilized in its aid. But individuals vary in many ways, and among the kinds of activity that tend to prevent the laying on of fat toward which endomorphy predisposes, are nervous and emotional activity. It follows, of course, that even among endomorphs there are great individual differences in the expression of the tendency to grow fat. The tendency can be controlled, or for a long time held partially in check, by strenuous exercise or hard work; by food scarcity or intentional dieting; by inhibiting appetite or increasing metabolism with some external agent (drugs, "de-appetizers," tobacco—alcohol in some individuals); by habitual emotional confusion with resulting metabolic inefficiency, or by habitual predominance of a negative emotional mood—emotion is here to be defined simply as organic commotion, not as something mystical or "psychic" or "psychosomatic"; and perhaps finally, by *t* component, which means, simply, physical quality.

Even when endomorphs are of high *t* component they usually grow fat, eventually, but some of them remain below the weight mean for their somatotype throughout most of their lives. Many of them are weight labile in the sense that they can control their fat deposits remarkably when for some reason they particularly want to—to get a husband or a job or to meet a fashion, for example.

There is a gradient of flexibility in the expression of the primary components, and endomorphy is by far the most flexibly expressed. Ectomorphy is the most fixed and objective of the components, and therefore the easiest to gauge, for there is no way to conceal its expression or to modify its manifestation. Mesomorphy is intermediate in this respect. The outward expression of it is somewhat affected by exercise and by the physical habits of the person, so that to casual observation and to unstandardized photography (especially to trick photography) an individual can look more mesomorphic, or less so, than he is. The outward expression of endomorphy is sensitive to many influences including nutrition, exercise, drugs, emotion, elasticity of the tissue, and doubtless to other remoter factors.

In somatotyping, therefore, an interested beginner is likely to find that to quantify ectomorphy on a 13-point scale will be easy almost from the first. Mesomorphy will offer no particular difficulty after one has become familiar with mesomorphic presentation at the two extremes of muscular condition (hard and soft). The present Atlas contains many examples of the same somatotype in both states. But to gauge endomorphy will remain a more challenging undertaking, and even a well-experienced student will want to be sure of the individual's history before making a commitment on that component, especially if there is available only a single phenotypic presentation. The most important period in the history, if you can get an old bathing suit photograph or something of the sort, will be the period just before adolescence.

On the average, the individuals of a somatotype family appear to gain weight in accordance with the rather smoothly progressing height-weight curves that are presented in Part Two. Nearly all of the 1175 examples used in the Atlas are men whose height-weight ratios were near the centers of the distributions for their ages when the photographs were taken. But this is a picked series, put together for teaching purposes and selected from 46,000 cases. When one is somatotyping it should be borne in mind that the great majority of individuals do *not* at all times fall at the exact centers of their somatotype trajectories. It is always necessary to take a good history, and to reckon with the factor of nutritional variation. The somatotype indicates only a constitutional predisposition to follow a particular trajectory when other factors are reasonably constant or "normal."

Some individuals gain their full adult complement of weight much earlier than others, and some gain it much more slowly. It is not very uncommon to encounter a person of midrange somatotype who weighed at 25 what his weight table calls for at 40, and has stayed or will stay at about that same weight for 30 years. A good history and a sufficient series of somatotype photographs will unravel his somatotype rightly enough, but the curve will be atypical. To balance this, you will find men who, although also of midrange somatotype, will weigh at 40 only about what their tables call for at 25, but may gain rapidly to approach or reach their normal quota sometime in the forties or fifties, or even in the sixties. We have the impression that *in general* it is the people of comparatively low *t* component who take on their weight early and those of high *t* who hold back longest in this respect, but there are dramatic exceptions. There is also some evidence that long lived people tend to arrive late at their full weight quota, but here also there are exceptions.

In setting up an arrangement of individual differences in a complex and difficult field it is sometimes necessary to steer a hazardous course between the Scylla of descriptive or identificational failure, and the Charybdis of irrelevance or inapplicable detail. We need objective identifying criteria for our taxonomy, but we need to be sure that the criteria are really adaptable to the job at hand. On page 8 a somatotyping machine was described which by using anthropometric measurements achieves complete objectivity but has too restricted a relevance to be of practical value. The tables on pp. 270-286 of VHP giving the distributions of the somatotypes on 17 anthropometric criteria are valid for the limited set of conditions to which they apply, and they do provide an objective standard for somatotyping healthy 18-year-old men. The question is often asked, would it not be worth while to construct similar tables for the later age levels, and for both sexes? This would further objectify somatotyping, but if done prematurely it might overobjectify it in a Procrustean sense. The writer's view has been that perhaps such a further advance into the field of anthropometric standardization should be postponed until conditions for doing it perfectly, or finally, are provided by a longitudinal study. In the meantime, by taking a careful weight history and using the height-weight criteria included in this volume, by matching your standardized photographs against these plates, and by studying the published checklists, it will be found possible to somatotype.

The original checklist of identifying characteristics for somatotyping will be found in VHP, pp. 37-45, but the condensed and revised list in Hooton's *Up from the Ape* (2nd ed., pp. 667-669) is especially recommended.

In the earlier volumes of the series the three primary components of the somatotype have been called first order variables, and certain second order variables have also been described: Dysplasia, gynandromorphy (*g*) and the component of textural quality (*t*). For definitions see p. 274. An objective guide to the most overt or manifest dysplasias is contained in the regional somatotypes on the plates. For *g* and *t* the best objectification we know is the photographic print itself. The best way to grasp what is meant by these two second order variables is to study photographs presenting different degrees of them. Table 19, Appendix 4, offers a list of photographs of particular interest with reference to g and *t*. Both of these second order variables are quantified on a 7-point scale where the numeral 1 represents the least or lowest degree encountered and 7 represents the highest degree conceivable. For *g* the rating 7 is reserved for a person who, except for genitals, is in *every* respect an example of the other sex. For *t* the rating 7 would indicate the *perfect* aesthetic ideal for the somatotype. We have not yet encountered a 7 in either g or *t*, but Table 19 lists good examples of nearly every other position on the scale for both of these variables. The intermediate positions, between 1 and 7, indicate equal-appearing intervals as in the case of the first order components of the somatotype.

In summary, the somatotype is a biological identification tag. It gives a person a home or place in a now fairly well standardized taxonomy which is comprehensive, basic, and operational. Men and women are somatotyped against the same criteria so that, although the distributions for the two sexes are different, the same tables of weight for stature and age apply to both. In the distribution of the somatotypes, women avoid the masculine territory of the extreme Northeast entirely and concentrate heavily in the Southwest. Men are less conservative in their distribution, dispersing throughout the whole area of human occurrence and freely invading the feminine territory of the Southwest. In a ten-year pilot study of 46,000 men who are in some respects representative of the American population, although perhaps a little too heavily weighted on the academic side, it has been possible to standardize height-weight tables for all of the 88 known somatotypes at all ages from 18 to 65. These tables are included in Part Two. With the somatotype available as a frame of reference, it becomes possible to reflect a new and differentiative light on many problems of diet and nutrition, and on problems of individual differentiation in many other fields. The device of the somatotype is intended as a scaffolding toward ultimate objectification of standards in all fields of human biology.

Part Two

Atlas for Somatotyping Men

5

Concerning the Order and Manner of Presentation

For a long time men have been perplexed by the problem of how best to describe, and to present for teaching purposes, the multi-dimensional universe in which they live. The universe offers no convenient points of beginning or ending, but seems to extend continuously through space and time. Divisional scales can be applied, even multi-dimensionally, to that part of the universe which can be seen or detected by human contrivances, but there is still the problem of settling upon an order of presentation for the resulting divisions of this continuum.

The dimensional variation of the human body presents a reflection of the same problem. The somatotypes embrace a continuous variation through three dimensions of shape and also a progression through time. In nature there is no more a convenient beginning and ending of the somatotypes than of the universe or of the earth. Therefore, to arrange the somatotypes in an *order*, so that they can be grasped as an entirety, it has been necessary to assign arbitrarily points of beginning and of ending.

The Atlas of somatotype photographs which makes up the body of the book derives its organization from a simple arbitrary device. The Atlas starts with the somatotype whose three numerals, when read as an ordinal number, present the lowest numerical value. It progresses through 88 steps to the somatotype presenting the highest numerical value. Thus the 1 1 7 is first in the series and the 7 4 1 is last. The seven gradations in the first component (endomorphy) divide the whole series of 88 somatotypes into seven sections within each of which the first component is held at a constant strength.

Within each of the seven sections are subsections which hold *both* of the first two components constant while the third progresses from its minimal to its maximal strength (for that particular combination of the first two components). In all there are 43 of these subsections, some of them embracing but a single degree of strength in the third component, some two degrees, and some three degrees.

To many people mere numerals constitute poor description and make dull reading. Moreover, the great diversity within the human species, with its tremendous variation in both temperament and outward form, suggests to many the even more magnified variations observed in our cousins the other animals. Among us are still a few to whom wasps and walking sticks, falcons and owls, great cats, bears, elephants, whales, under-the-barn kitties and sandpipers are sheer delight. For such as these, and for all who would see in the human life around them "something more than number," I have given to each of the somatotypes a totem, or identification with some creature or creatures whom the somatotype forcibly suggests. This yields an invaluable teaching prop.

Let no one take offense at these totems. If you do not happen to be a naturalist at heart and do not love these fellow creatures, there is an even better reason for contemplating them in connection with a study of human variation. The great strength of human life lies in its diversity, and in its reflection of the diverse by balancing gifts of many other animals who have been evolutionary pioneers and are representative of widely divergent lines of specialized development. Our human advantage derives from the fact that we in some measure tend to participate in all of it. We are *at once* supersensitized

Table 1

The Approximate Incidence per 1000 for Each of the 88 Known Somatotypes in an American Male Population of 46,000

Somatotype	Incidence per 1000	Somatotype	Incidence per 1000	Somatotype	Incidence per 1000
117	0.2	316	0.5	514	0.3
126	0.5	325	10	515	0.1
127	1	326	6	522	0.5
136	3	334	32	523	2
145	4	335	34	524	4
154	4	343	50	532	8
162	1	344	57	533	18
163	3	345	27	534	10
171	0.3	352	28	541	3
172	0.5	353	56	542	31
		354	37	543	17
		361	2	551	2
		362	18	552	6
		371	2	561	0.7
		372	3		
216	0.2				
217	0.4	415	0.5	612	0.2
225	3	424	4	613	0.5
226	12	425	5	621	0.5
227	2	433	9	622	3
235	20	434	22	623	2
236	15	435	14	631	2
244	40	442	25	632	7
245	24	443	60	641	2
252	4	444	42	642	5
253	35	451	4	651	0.5
254	28	452	48		
261	0.5	453	28		
262	10	461	2	711	0.1
263	14	462	6	712	0.3
271	1	471	3	721	0.7
272	3			722	2
				731	1
				732	3
				741	3

Table 2

Arrangement of the Somatotypes According to Rarity

Rarity 1[1]	Incidence per 1000	Rarity 2	Incidence per 1000	Rarity 3	Incidence per 1000	Rarity 4	Incidence per 1000	Rarity 5	Incidence per 1000
2 4 4	40	2 2 6	12	1 4 5	4	1 2 7	1	1 1 7	0.2
2 5 3	35	2 3 5	20	1 5 4	4	1 3 6	3	1 2 6	0.5
3 3 4	32	2 3 6	15	2 5 2	4	1 6 2	1	1 7 1	0.3
3 3 5	34	2 4 5	24	2 6 2	10	1 6 3	3	1 7 2	0.5
3 4 3	50	2 5 4	28	3 2 5	10	2 2 5	3	2 1 6	0.2
3 4 4	57	2 6 3	14	3 2 6	6	2 2 7	2	2 1 7	0.4
3 5 3	56	3 4 5	27	4 2 4	4	2 7 1	1	2 6 1	0.5
3 5 4	37	3 5 2	28	4 2 5	5	2 7 2	3	3 1 6	0.5
4 4 3	60	3 6 2	18	4 3 3	9	3 6 1	2	4 1 5	0.5
4 4 4	42	4 3 4	22	4 5 1	4	3 7 1	2	5 1 4	0.3
4 5 2	48	4 3 5	14	4 6 2	6	3 7 2	3	5 1 5	0.1
5 4 2	31	4 4 2	25	5 2 4	4	4 6 1	2	5 2 2	0.5
		4 5 3	28	5 3 2	8	4 7 1	3	5 6 1	0.7
		5 3 3	18	5 3 4	10	5 2 3	2	6 1 2	0.2
		5 4 3	17	5 5 2	6	5 4 1	3	6 1 3	0.5
				6 3 2	7	5 5 1	2	6 2 1	0.5
				6 4 2	5	6 2 2	3	6 5 1	0.5
						6 2 3	2	7 1 1	0.1
						6 3 1	2	7 1 2	0.3
						6 4 1	2	7 2 1	0.7
						7 2 2	2		
						7 3 1	1		
						7 3 2	3		
						7 4 1	3		
Total Incidence per 1000	522		310		106		54		8

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[1] Rarity 1. The common somatotypes (31 to 60 per 1000).
Rarity 2. Less common (11 to 30 per 1000).
Rarity 3. Scarce (4 to 10 per 1000).
Rarity 4. Very scarce (1 to 3 per 1000).
Rarity 5. Rare (less than 1 per 1000).

ectomorphs floating in the night air, powerful great cats stalking the earth, and vital endomorphs disporting in the shallow seas.

Table 1 presents the 88 somatotypes in the order in which they occur in the Atlas, and also lists the frequency with which each appears in the sample population of 46,000. Table 2 shows these same frequency data in another arrangement, listing the somatotypes according to their rarity. In the column at the extreme left of this Table are 12 somatotypes which collectively make up 52.2 per cent of the sample studied, while in the column at the extreme right are 20 somatotypes that collectively make up only 0.8 per cent of the sample.

Preceding the introductory discussions of the somatotypes (within the Atlas) will be found, in each of the 88 instances, (1) a somatotype cluster chart, (2) a table of weights for age and height, and (3) a curve for height over the cube root of weight ratio indices.

The *somatotype cluster chart* illustrates the position (on a two-dimensional schema), not only of the dead center examples of the somatotype in question, but also of all the variations from this dead center position that will be encountered in the Atlas (or that are known to us, since the Atlas includes all the variations we have encountered). By "a variation," in this instance, is meant a physique falling in the area between the somatotype in question and one of its adjacent neighbors. For purposes of orderly arrangement in the Atlas, the intermediate variation between two somatotypes is always presented as accompanying that somatotype (of the pair) which first occurs in the ordinal progression. On the somatotype cluster charts the position of the dead center somatotype is encircled, while the variations which can be reached from that somatotype in accordance with the rule just stated are represented by black dots.

Table 3

Standard Average Weights for Height and Age. Adult Men[1]

	Age									
	18	23	28	33	38	43	48	53	58	63
75	171	178	187	192	197	201	204	205	205	205
74	166	173	181	186	191	194	197	198	198	198
73	161	168	175	180	184	187	190	191	191	191
72	156	162	169	174	178	180	183	184	184	184
71	151	157	163	168	172	175	177	178	178	178
70	146	152	157	162	166	168	170	171	171	171
69	141	148	152	157	160	162	164	165	165	165
68	137	144	148	152	155	157	159	160	160	160
67	133	141	144	147	150	152	154	155	155	155
66	129	137	141	142	145	147	149	150	150	150
65	125	133	136	138	141	143	145	146	146	146
64	121	129	132	134	137	139	141	142	142	142
63	117	125	128	130	133	135	137	138	138	138
62	114	121	125	127	130	132	134	135	135	135
61	111	118	122	124	127	129	131	132	132	132

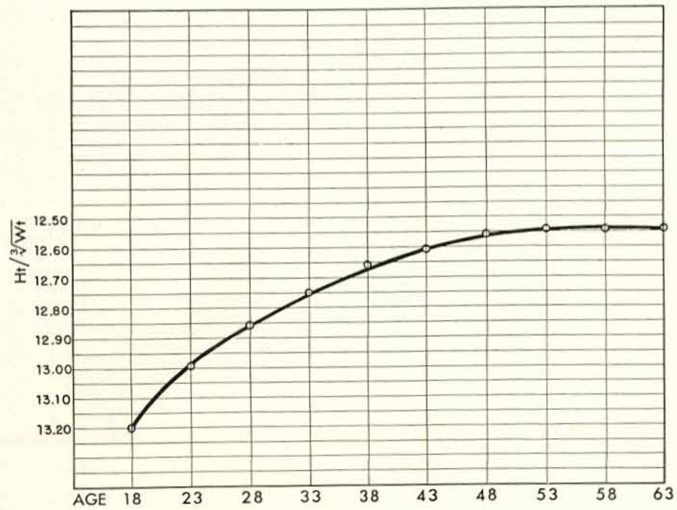

FIG. 3. The "Normal" Curve for Height over the Cube Root of Weight, American Men. From the Data of The Actuarial Society of America. Report of 1912.

The *table of weights for age and height* presents the progression of mean weights, for the somatotype in question. For all of the common somatotypes, this table represents the progression of mean weights (without clothing) as we found them, with only a minimum of interpolative or extrapolative smoothing at the extremes of age and stature. For the rarer somatotypes the progressions are uniformly smoothed, by both interpolation and extrapolation, as was the original (1912) table published by the Actuarial Society of America. In the cases of somatotypes of extreme rarity the weight data are derived *mainly* by interpolation—a procedure seemingly well justified by the fact that all of these rare somatotypes are surrounded by commoner ones whose height-weight-age data are abundantly established.

The *curve for height over the cube root of weight* illustrates these same basic data in graphic form. For each somatotype this curve might well be compared with the "normal" curve shown in Figure 3. The latter is derived from Table 3, which is the table of average weights for height and age (for adult men) in current general use. If our 88 separate curves of height-weight ratio were all averaged into one curve, with proportionate emphasis for somatotype frequencies, the result would be simply an approximation of Figure 3.

With only a few exceptions, the photographs used in the Atlas were taken under the standardized conditions

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[1] Adapted from the *Report of Associated Life Insurance Directors and Actuarial Society of America*, N.Y., 1912. Based on the height-weight data of 221,819 men who were accepted for life insurance. These men were measured for height with their shoes on and were weighed with their clothes on although, in most cases apparently, with coats removed. In the present table, therefore, one inch of stature and seven pounds of weight have been deducted, in order to bring the data into line with the tables included in this book. This Actuarial Society Report of 1912 has been used almost universally as the basis for the tables of normal height and weight found in standard texts and in doctors' offices. More recently, attempts to devise norms based on subjective estimates of three types of body build indicate an increasing awareness of the problem.

Table 4

Table of Mean Statures for the Somatotypes. (The General Mean is 68.53 Inches)

Somato- type	Stature	Somato- type	Stature	Somato- type	Stature	Somato- type	Stature
1 1 7	72.5	2 6 2	68.6	4 3 3	66.5	5 5 1	65.4
1 2 6	68.8	2 6 3	71.4	4 3 4	68.7	5 5 2	68.9
1 2 7	73.0	2 7 1	65.7	4 3 5	72.3	5 6 1	66.1
1 3 6	70.7	2 7 2	69.3	4 4 2	65.8		
1 4 5	68.7			4 4 3	69.1	6 1 2	64.6
1 5 4	68.8	3 1 6	69.7	4 4 4	72.6	6 1 3	70.1
1 6 2	64.8	3 2 5	68.5	4 5 1	63.9	6 2 1	63.0
1 6 3	70.0	3 2 6	72.6	4 5 2	67.7	6 2 2	67.2
1 7 1	66.6	3 3 4	68.4	4 5 3	70.6	6 2 3	71.3
1 7 2	71.2	3 3 5	71.6	4 6 1	65.9	6 3 1	65.3
		3 4 3	67.2	4 6 2	69.7	6 3 2	68.7
2 1 6	68.4	3 4 4	71.0	4 7 1	64.4	6 4 1	65.2
2 1 7	71.2	3 4 5	72.6			6 4 2	68.7
2 2 5	68.4	3 5 2	66.0	5 1 4	67.7	6 5 1	63.6
2 2 6	70.9	3 5 3	69.4	5 1 5	72.4		
2 2 7	74.4	3 5 4	72.5	5 2 2	65.1	7 1 1	62.3
2 3 5	68.5	3 6 1	64.0	5 2 3	68.0	7 1 2	68.6
2 3 6	72.2	3 6 2	69.4	5 2 4	71.3	7 2 1	65.4
2 4 4	68.8	3 7 1	65.6	5 3 2	66.3	7 2 2	69.3
2 4 5	71.4	3 7 2	68.5	5 3 3	69.7	7 3 1	66.0
2 5 2	64.8			5 3 4	72.4	7 3 2	69.4
2 5 3	68.0	4 1 5	69.6	5 4 1	63.9	7 4 1	67.3
2 5 4	71.3	4 2 4	67.1	5 4 2	68.7		
2 6 1	64.1	4 2 5	70.7	5 4 3	71.0		

described in Appendix 3. The proportionate statures are true to life as they appear on the plates. Those who appear tall on the plates are tall, and those who appear short are short. The mean stature for the entire series of 46,000 is 68.53 inches. Table 4 shows the mean statures for the respective somatotypes. It will be noted that whenever the first two components are held constant, stature rises with ectomorphy. Ectomorphy is in one sense stretched-out-ness. Yet any somatotype *can* be of any stature, for the somatotype is a measure of shape, not of size.

The photographs used in the Atlas are in nearly all instances those which, among the entire available series, show the best agreement with the tables of *mean* height-over-cube-root-of-weight ratios for the different age levels. These tables of mean ratios are given in their entirety in Appendix 2 (Tables 7-16). They provide the objective frame of reference against which both men and women are somatotyped at all ages from 18 through 65.

For men, the means and standard deviations for the three primary components are given in Table 5. By comparing these means, derived from a general population of 46,000, with the means for a college population of 4000 (Volume 1, p. 127), it will be seen that our male population in general appears to be about one eighth of a standard deviation more endomorphic than the college boys, about one third of a standard deviation more mesomorphic, and about one tenth of a standard deviation less ectomorphic. (For the college boys the means were as follows: Endomorphy, 3.20; Mesomorphy, 3.77; Ectomorphy, 3.53.)

Table 5

Means and Standard Deviations for the Primary Components in Men

N=46,000

	Mean	Standard Deviation
Endomorphy	3.34	1.10
Mesomorphy	4.11	1.03
Ectomorphy	3.42	1.18

When interpreting the meaning of a somatotype, and particularly when comparing the somatotypes of individuals (either of the same sex or of opposite sex), it will be found helpful to translate the raw somatotype ratings into percentile standings for each of the primary components. Table 6 gives the percentile values for the primary components in men. Unfortunately, we are not yet ready to publish this translation for women—this will have to wait for the volume, *Atlas of Women*. Meanwhile, however, it will be helpful to the beginner in somatotyping, should he wish to compare two frequently appearing somatotypes such as, for example, 3 3 5 and 3 5 3, simply to refer to Table 6 and transpose the numeral ratings into their percentile values. These two somatotypes then can be expressed, respectively, as the percentiles 50-21-92 and 50-86-46. The 2 6 3 and the 3 2 6 become 18-97-46 and 50-5-99.

To people accustomed to medical material we will perhaps seem to have been too conservative in blocking out both faces and genitals. Admittedly, the Atlas would be better in many ways if these could have been left in, although so far as the specific purpose of standardizing the

Table 6

Percentile Values for the Primary Components in Men

N=46,000

Degree of Component	Endomorphy			Mesomorphy			Ectomorphy		
	Percentile Range	Mid-Percentile Rank	Nearest Whole Percentile	Percentile Range	Mid-Percentile Rank	Nearest Whole Percentile	Percentile Range	Mid-Percentile Rank	Nearest Whole Percentile
7.0	99.51–100	99.75	100	99.37–100	99.68	100	99.83–100	99.91	100
6.5	99.00–99.50	99.25	99	98.73–99.36	99.04	99	99.65–99.82	99.73	100
6.0	97.87–98.99	98.43	98	95.87–98.72	97.29	97	97.79–99.64	98.71	99
5.5	96.73–97.86	97.29	97	93.01–95.86	94.43	94	95.93–97.78	96.85	97
5.0	91.60–96.72	94.16	94	78.99–93.00	85.99	86	88.85–95.92	92.38	92
4.5	86.47–91.59	89.03	89	64.96–78.98	71.96	72	81.77–88.84	85.30	85
4.0	72.85–86.46	79.65	80	45.46–64.95	55.20	55	67.76–81.76	74.76	75
3.5	59.22–72.84	66.03	66	25.96–45.45	35.70	36	53.74–67.75	60.74	61
3.0	41.10–59.21	50.15	50	16.06–25.95	20.95	21	39.02–53.73	46.37	46
2.5	22.97–41.09	32.03	32	6.16–16.05	11.10	11	24.29–39.01	31.65	32
2.0	12.37–22.96	17.66	18	3.25–6.15	4.70	5	13.67–24.28	18.97	19
1.5	1.76–12.36	7.06	7	0.34–3.24	1.46	2	3.04–13.66	8.35	8
1.0	0–1.75	0.88	1	0–0.33	0.17	1	0–3.03	1.52	2

criteria for defining the gross somatotypes is concerned, there is no great loss. Removal of the faces and genitals was in accordance with the nature of the original agreement under which many of the somatotype photographs were taken.

The 1175 sets of photographs making up the Atlas are listed in a straight-through series. Beneath the photographs appear, first, this serial number. Next, the identification of the somatotype, and a subserial number giving the individual a place within that somatotype group. At the end of the (first) line will be found the height over cube root of weight and the age of this particular individual. In the center of the line is a further identification which places the man either at the dead center position for the somatotype (as 1 1 7 – 1 1 7) or at a position between this point and a neighboring somatotype (as 1 1 7 – 1 2 7, which would be 1 1½ 7).

Thus in addition to examples of somatotypes that are dead center on a 7-point scale, the Atlas also presents all of the half-point variations toward the immediately neighboring somatotypes that have been found in the sample. Within each of the 88 somatotype groups these variations are arranged in the same order that we always use for somatotypes. This is simply the order of rising value for 3-digit ordinal numbers or, in the case of somatotypes, the order of rising strength first in the third, then in the second, and finally in the first component.

Inclusion of the half-point variations on the 7-point scale amounts to using a 13-point scale. On the latter we have been able to identify, and to include in the Atlas, 505 different male somatotypes as compared with the 88 yielded by the 7-point scale. These 505 13-point scale somatotypes are presented, with different examples arranged in rising order of age, within the over-all frame of the 88 7-point scale somatotypes.

The second line of data beneath the photographs is given over entirely to a listing of the regional or partial somatotypes applicable respectively to the five bodily regions of the physique illustrated. (Region 1, head and neck; region 2, the chest, or trunk above the diaphragm; region 3, arms and hands; region 4, the abdomen, or trunk below the diaphragm; region 5, legs and feet.)

The notations on the animal totems, found in italics at the upper left on the 88 pages introducing the somatotypes, are self-evidently an accompaniment in a minor key to be read or omitted according to the reader's taste. Similarly, the paragraphs of text filling the lower half of each of these pages may well be omitted or scanned by a reader interested mainly in the progression of the objective criteria definitive of the somatotype. It is the purpose of these paragraphs to convey some of our present impressions and speculations regarding dietary, behavioral and clinical tendencies which may be associated with the constitutional patterns expressed in the somatotypes.

These impressions should not be confused with established fact, but some of them seem well borne out and so provocative of new research that to omit reporting them might be as delinquent as an overreport.

At three points in particular we have let speculation range ahead of experimental fact. (1) The impression is stressed that endopenic people tend to be protein-hungry. They certainly *report* a need for protein more urgently than do midrange or endomorphic people, and also they appear to consume more food in proportion to their bulk. Perhaps they (and our informants who feed them) grossly overstate both their food intake and their craving for meat, while average and heavy people misinform us in an opposite direction. Only longitudinal studies, on different somatotypes, with laboratory measurement of intake and output, can settle such a question.

(2) In a few instances propensities toward disease are mentioned as apparent in certain groups of somatotypes. The question is fair—which came first, the constitutional pattern or the disease? Also it must be recognized that some effects of a disease process may have been present long before the disease was manifest. But were these earlier processes in turn constitutional or were they pathological? At the present state of knowledge, in the face of the difficulties so easily posed by such questions and in the absence of longitudinal studies, there seems to be no alternative to making the best of the descriptive impressions that can be gathered, and to framing the best speculative hypotheses we can.

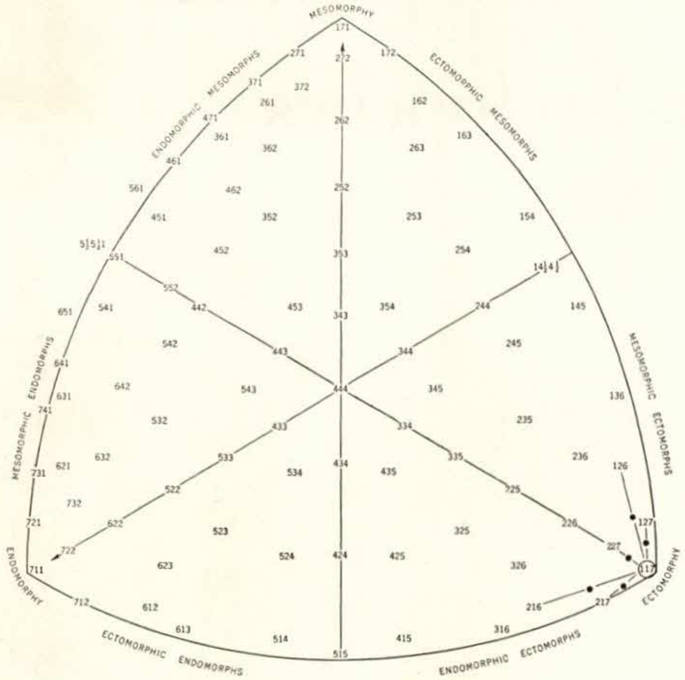
(3) With respect to the puzzling question of individual variation in longevity, we have speculated that organ systems, including the cardiovascular system, may present internal dysplasias and other constitutional peculiarities leading to differential aging rates so that some organs of the body grow old faster than others. It is perhaps reasonable to suppose too that internal constitutional characteristics occur in related patterns, as do the external characteristics contributive to the somatotype. This might account for the frequency of association between certain diseases and somatotype, as well as for an apparent association between longevity and somatotype.

6

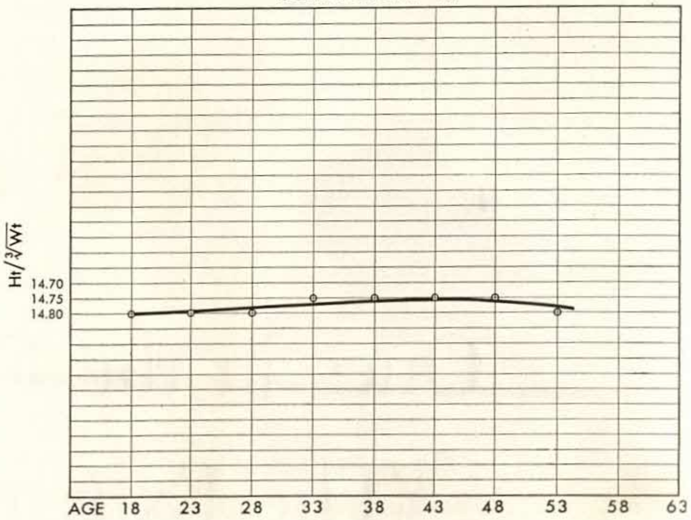
Ones in the First Component. The Extreme Endopenes

1. WALKING STICKS

Somatotype 1 1 7 *(Polar ectomorphy, 9-level.) At the structural maximum in the third component, and at the minimum in the other two. The polar Southeast. Walking sticks. Fragile stretched-out creatures with the utmost surface exposure in proportion to mass, and therefore with maximal delicacy of structure. Nos. 1–10.*



SOMATOTYPE 117

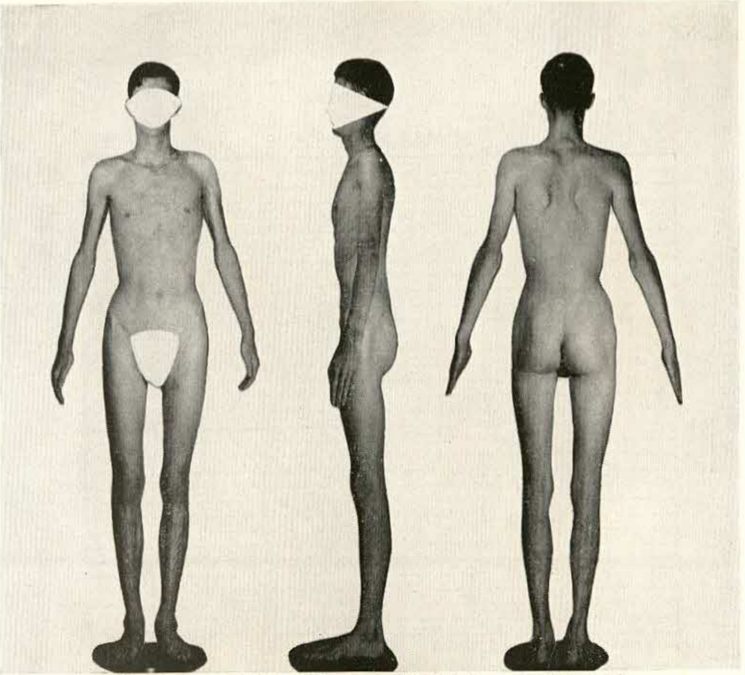


Weight for Age and Height

Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	130	130	130	131	131	131	132	131	..	..
74	125	125	125	126	126	126	127	126	..	..
73	120	120	120	121	121	121	122	121	..	..
72	115	115	115	116	116	116	117	116	..	..
71	111	111	111	112	112	112	112	111	..	..
70	106	106	106	107	107	107	108	108	..	..
69	102	102	102	103	103	103	103	102	..	..
68	98	98	98	99	99	99	99	98	..	..
67	93	93	94	94	94	94	94	93	..	..
66	89	89	89	90	90	90	90	90	..	..
65	85	85	85	86	86	86	86	85	..	..
64	81	81	82	82	82	82	82	81	..	..
63	77	77	77	78	78	78	78	78	..	..
62	74	74	74	75	75	75	75	74	..	..
61	70	70	70	71	71	71	71	71	..	..

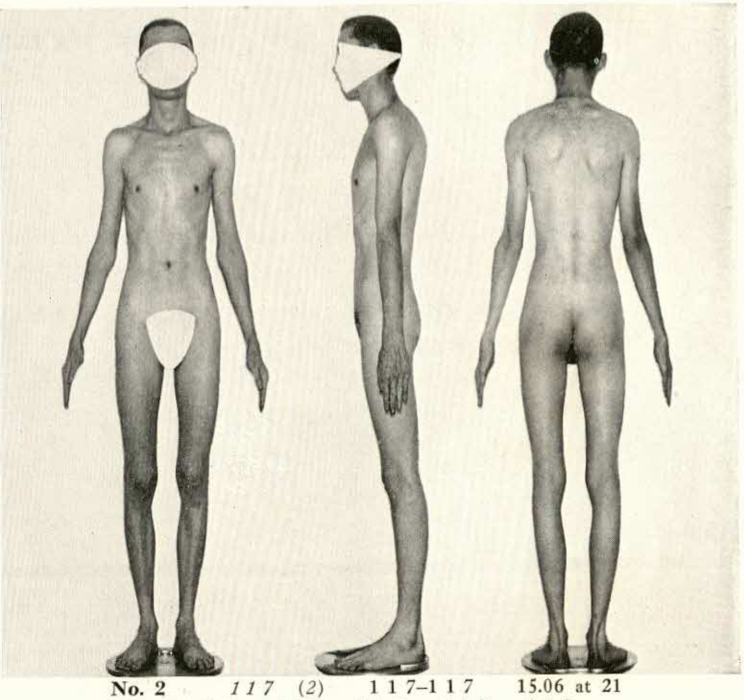
Rarity 5. Incidence 2 per ten thousand. This extremely rare somatotype presents an almost perfectly flat curve of nutrition throughout adult life and *seems* only by the barest margin to maintain the frailest, most brittle sort of human existence. The normal or mean weight gain during the period from early manhood to old age appears to be only a pound or two, at average stature. Such a person is often the despair both of mothers and of the nutritionist. Under forced overfeeding, especially with food rich in butterfat, there may be a temporary weight gain of a few pounds but the new weight tends to remain in one place—usually as a derbylike protuberance of the lower belly—and this is inclined to disappear promptly when the subject returns to his normal or regular diet.

The 1 1 7, with his extreme predominance of surface over mass, seems caught in a predicament of biological overexposure, and for such an organism the ordinary circumstances of social life may in fact amount to chronic overstimulation. Hebephrenic psychopathy may be one *natural* response to (way out of) such a situation. The 1 1 7 is more common in the mental hospitals than in the general population, and his diagnosis is usually *hebephrenic schizophrenia.* But also he is encountered more frequently on college campuses than in the general population, and there the diagnosis is sometimes *Phi Beta Kappa.* This occasional coincidence of sensitive brilliance and hebephrenic jettisoning is one of the things that make mental tests difficult to interpret, particularly when the somatotype is not known.

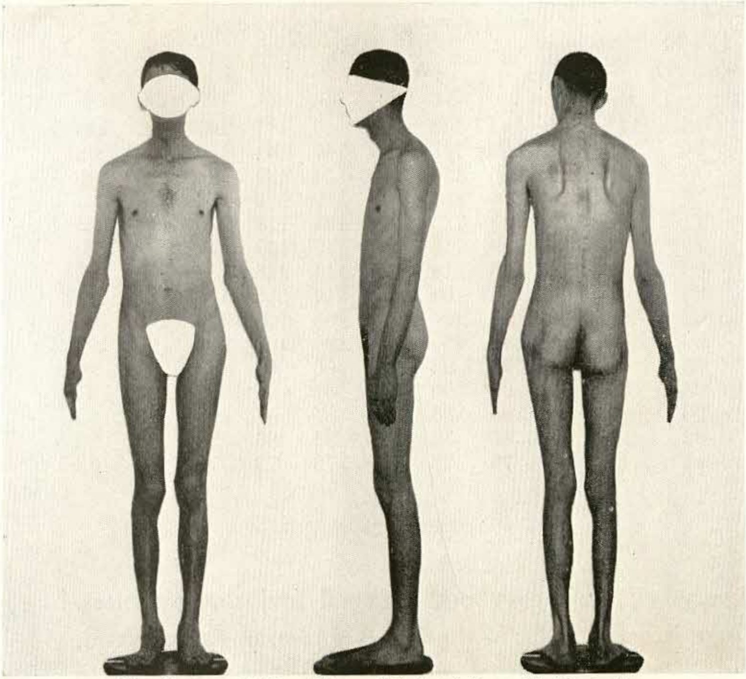


No. 1 *1 1 7* (*1*) 1 1 7–1 1 7 14.82 at 18
1 1½ 7, 1 1 7, 1 1 7, 1½ 1½ 7, 1½ 1 7

117

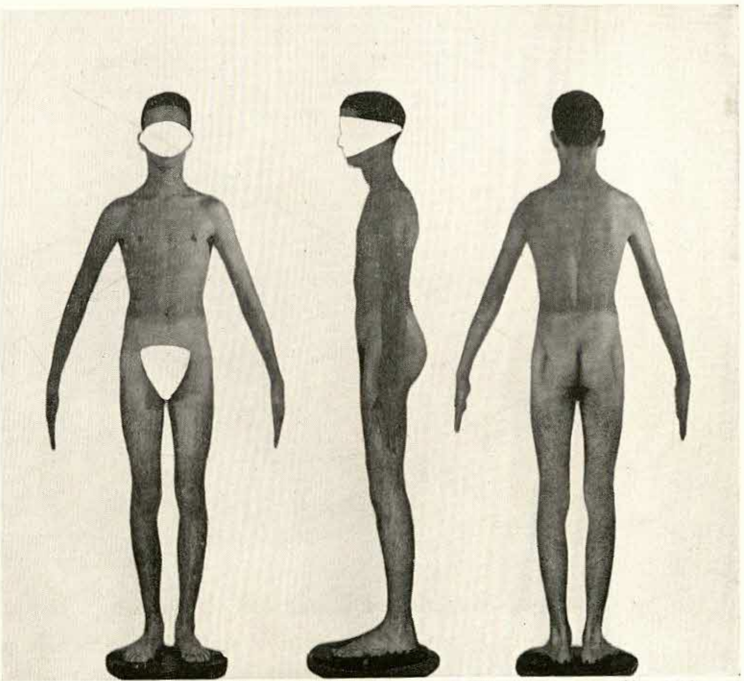


No. 2 *1 1 7* (*2*) 1 1 7–1 1 7 15.06 at 21
1 1½ 7, 1 1 7, 1 1 7, 1 1 7, 1 1 7

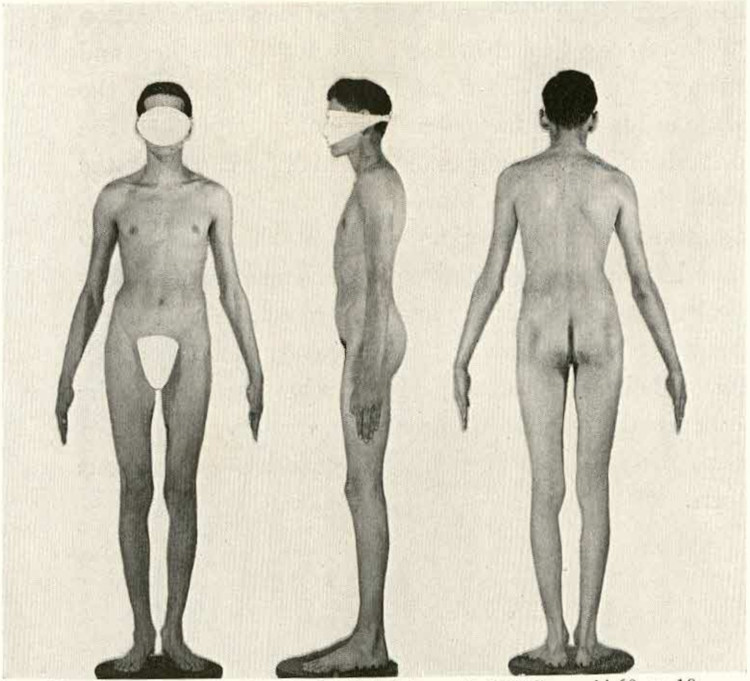


No. 3 *1 1 7* (*3*) 1 1 7–1 1 7 14.76 at 40
1 1 7, 1 1 7, 1 1 6½, 1 1 7, 1 1 7

117

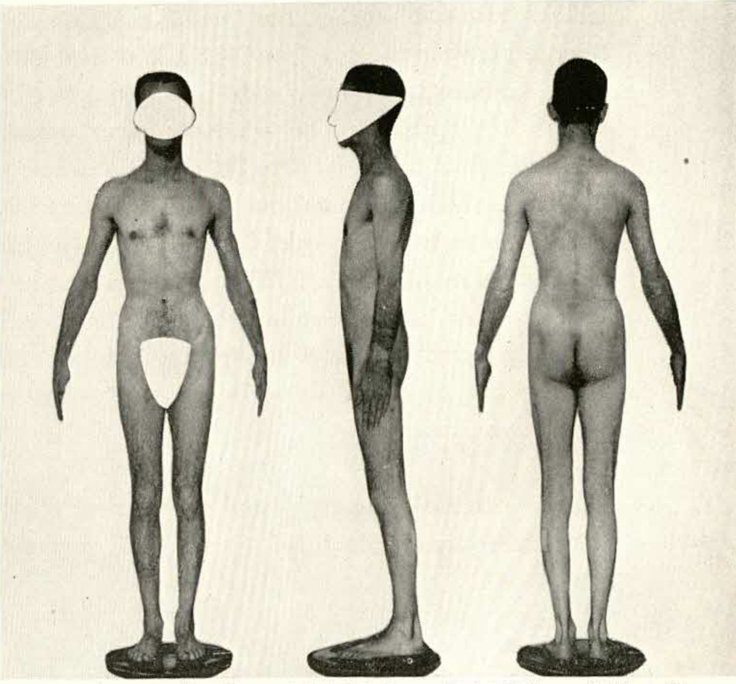


No. 4 *1 1 7* (*4*) 1 1 7–1 2 6 (1 1½ 6½) 14.53 at 18
1½ 2 6, 1 1½ 6½, 1 1 7, 1 2 6, 1½ 1½ 6½



No. 5 *1 1 7* (*5*) 1 1 7–1 2 7 (1 1½ 7) 14.60 at 18
1 2 7, 1½ 1½ 7, 1 1½ 7, 1½ 1½ 6½, 1 1½ 7

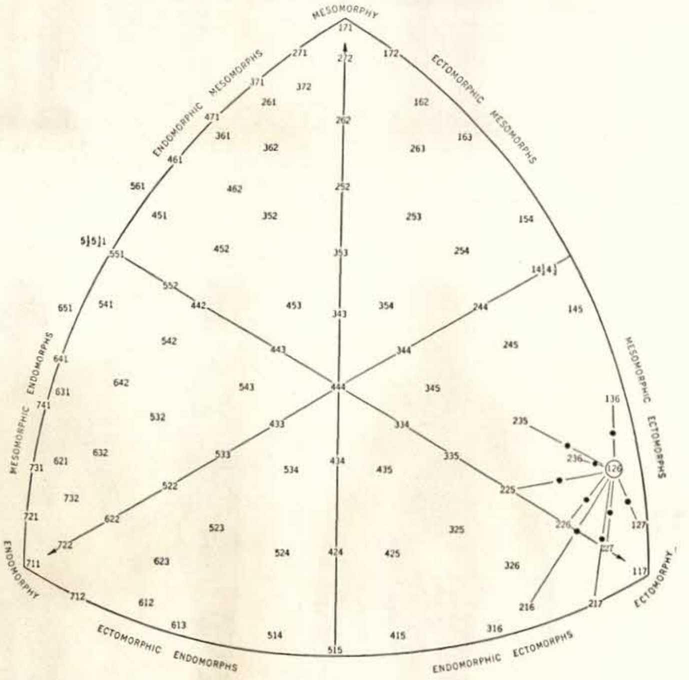
117



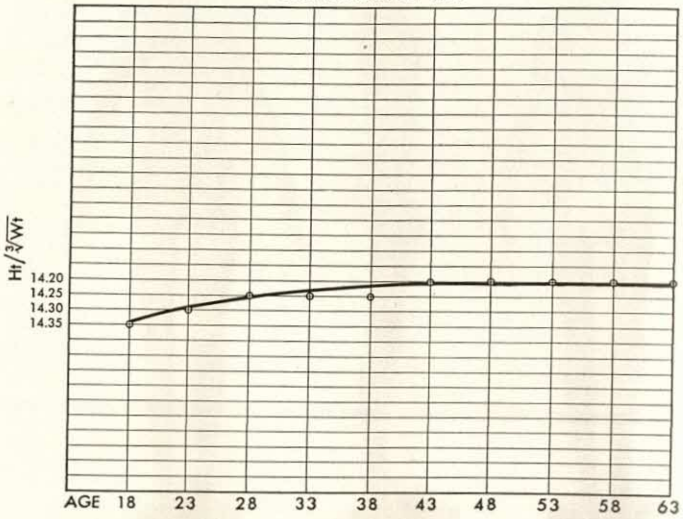
No. 6 *1 1 7* (*6*) 1 1 7–2 1 6 (1½ 1 6½) 14.34 at 34
1½ 1½ 6½, 1½ 1 6½, 1½ 1 6½, 1½ 1 7, 1½ 1½ 6½

2. WASPS

Somatotype 1 2 6 *(Mesomorphic extreme ectomorphy at extreme endopenia, 9-level.) Little wasps. Slight, delicate fellows, crushed by your lightest step. Yet they can sting. Nos. 11–27.*



SOMATOTYPE 126

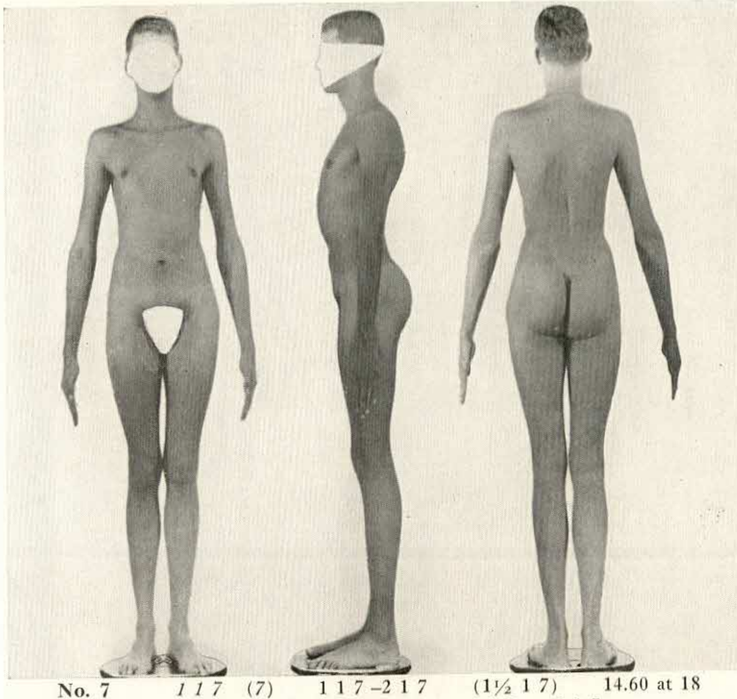


Weight for Age and Height

Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	143	144	144	145	146	146	147	148	148	148
74	137	138	139	139	140	140	141	142	142	142
73	132	133	133	134	134	134	135	136	136	136
72	127	127	128	129	129	129	130	131	131	130
71	122	122	123	123	124	124	125	126	126	125
70	117	117	118	118	119	119	120	121	121	120
69	112	112	113	114	114	115	115	116	116	115
68	107	108	108	109	109	110	110	111	111	110
67	102	103	103	104	104	105	105	106	106	105
66	98	98	98	99	100	100	100	101	101	100
65	94	94	95	95	95	96	96	96	96	96
64	89	90	90	90	91	91	91	92	92	91
63	85	86	86	86	87	87	87	88	88	88
62	81	82	82	82	82	83	83	83	83	83
61	77	78	78	78	78	79	79	79	79	79

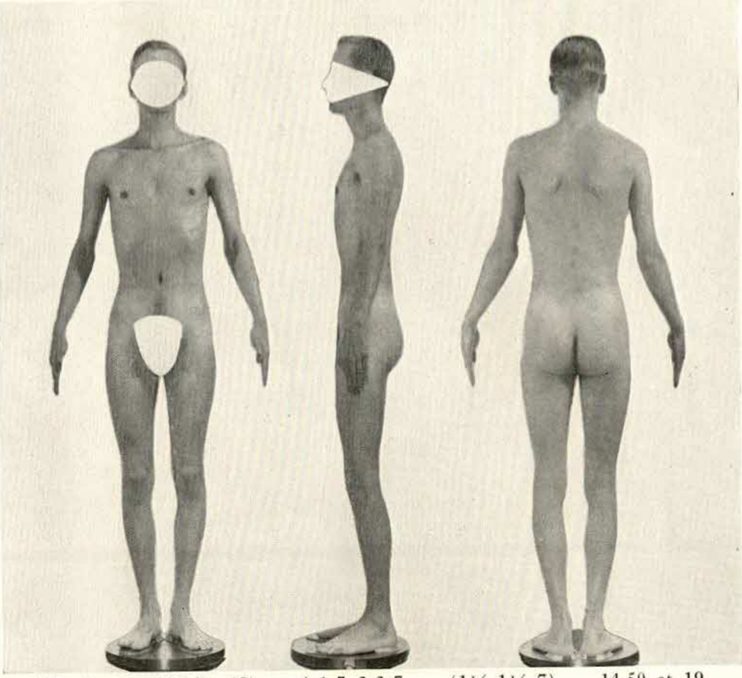
Rarity 5. Incidence 5 per ten thousand. Also an extreme rarity, and the curve of nutrition is nearly as flat as that of the 1 1 7. The average weight gain during adult life is not more than three or four pounds at the mean male stature of 69 inches. But there is one dramatic difference between the 1 1 7 and the 1 2 6. The latter has greater durability, and may indeed be a long lived somatotype. He appears to be relatively more common in the fifties than at earlier ages. In our experience, which unfortunately is a limited one, the 1 2 6 typically has not begun to jettison any of his weight by the time he reaches his middle sixties. This may mean that he tends to be not yet "old" or senile at that age level, and that normally he will go on to a later age before beginning to wear out, or before dying from constitutional or degenerative causes.

This is extreme ectomorphy and a very near relative of the excessively fragile 1 1 7. Surface still predominates overwhelmingly over both visceral and somatic mass. Like his polar cousin, the 1 2 6 is also an overexposed, and in that sense a biologically extraverted organism. He is therefore almost necessarily *introverted* socially, and in a psychiatric sense must resist great pressure to jettison his awareness—to dissociate. But he is tougher and stronger than the 1 1 7, and he tends to bring to the stage of life a new factor—a degree of sustained defiance or resistance. Although easily crushed, *he can sting the thing that crushes him.* According to the interplay of circumstance and his own temperament, this new quality may blossom into Promethean achievement or may congeal to paranoid hostility and resentment. In the mental hospitals the diagnosis of the 1 2 6 tends to alternate between hebephrenic and paranoid schizophrenia. In the colleges this can be a successful somatotype and perhaps the same has been true in monasteries of various sorts.

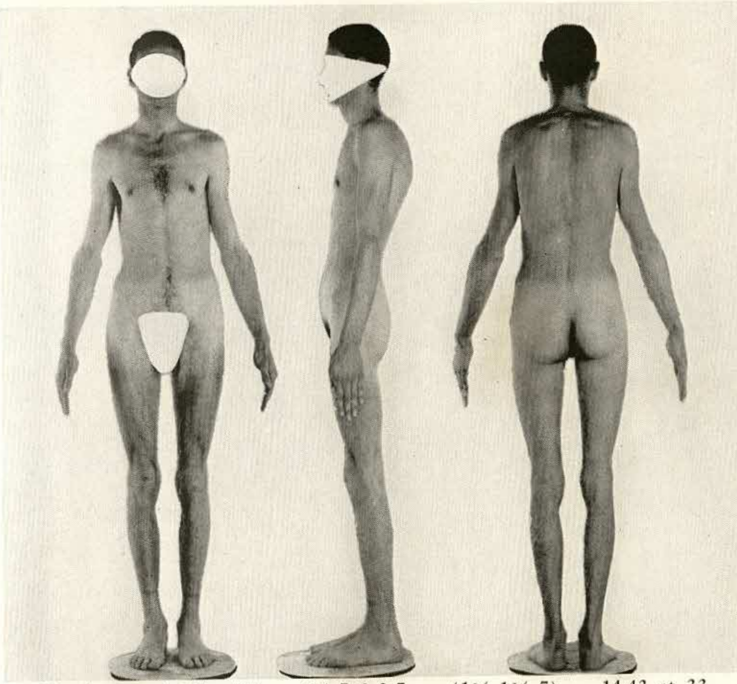


No. 7 *1 1 7* (*7*) 1 1 7–2 1 7 (1½ 1 7) 14.60 at 18
1½ 1 7, 1½ 1 7, 1½ 1 7, 2 1 7, 2 1 7

117

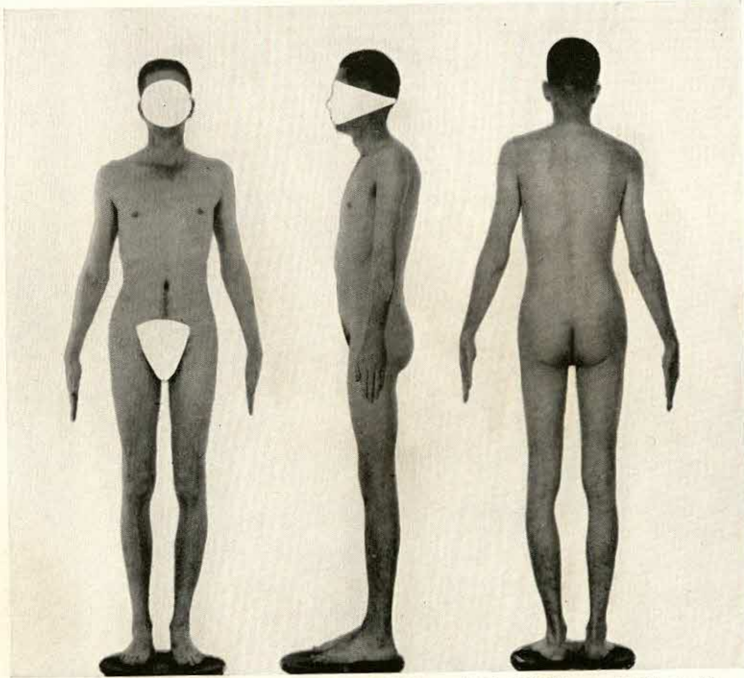


No. 8 *1 1 7* (*8*) 1 1 7–2 2 7 (1½ 1½ 7) 14.50 at 19
1½ 1½ 7, 1½ 1½ 6½, 1½ 1½ 6½, 1½ 1½ 7, 2 1½ 7

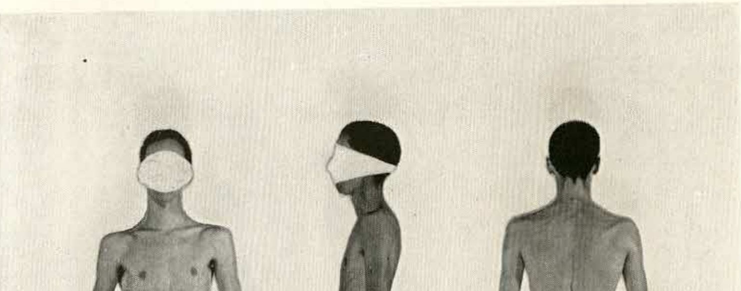


No. 9 *1 1 7* (*9*) 1 1 7–2 2 7 (1½ 1½ 7) 14.43 at 33
1½ 2 6½, 1½ 1 7, 1½ 1½ 6½, 1½ 1 7, 1½ 1½ 7

117

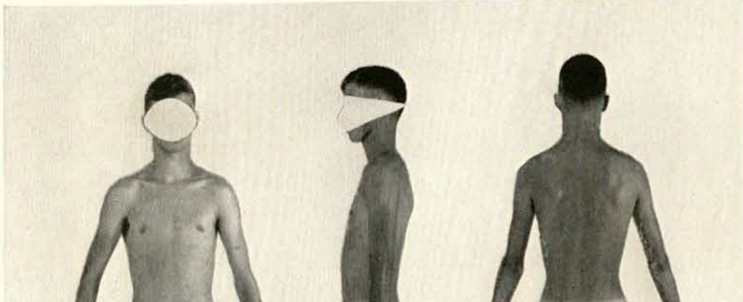


No. 10 *1 1 7* (*10*) 1 1 7–2 2 7 (1½ 1½ 7) 14.37 at 40
1½ 1½ 7, 2 1½ 6½, 1½ 1 6½, 2 1½ 7, 1½ 1½ 7

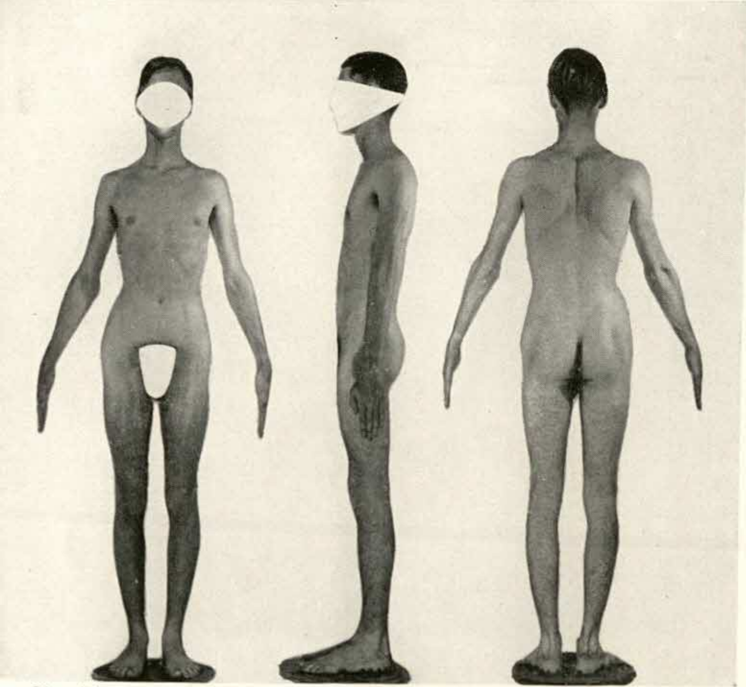


No. 11 *1 2 6* (*1*) 1 2 6–1 2 6 14.32 at 18
1 2 6, 1 2 6, 1 1½ 6½, 1 1½ 6½, 1 2 6

126

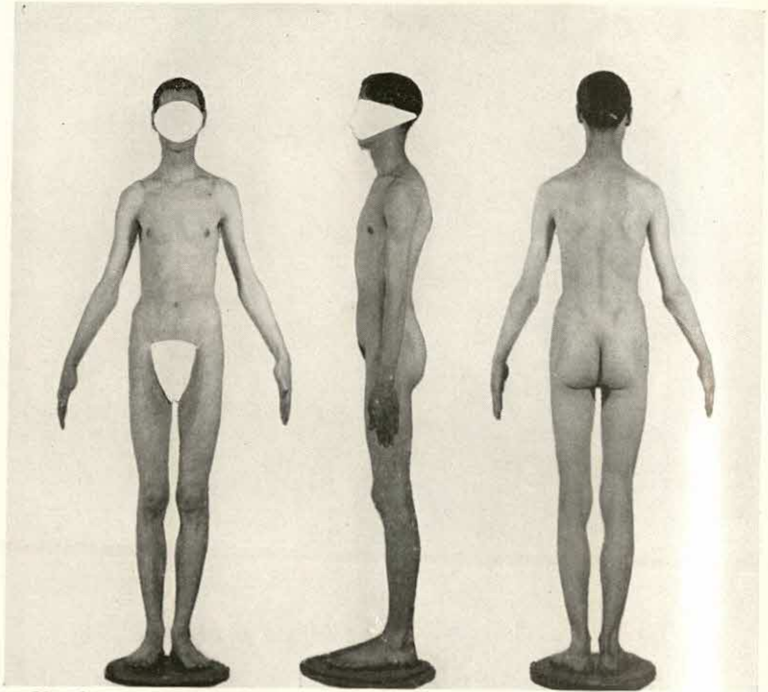


No. 12 *1 2 6* (*2*) 1 2 6–1 2 7 (1 2 6½) 14.47 at 19
1 2½ 6½, 1 1½ 7, 1 1½ 6½, 1½ 2 6½, 1½ 2 6

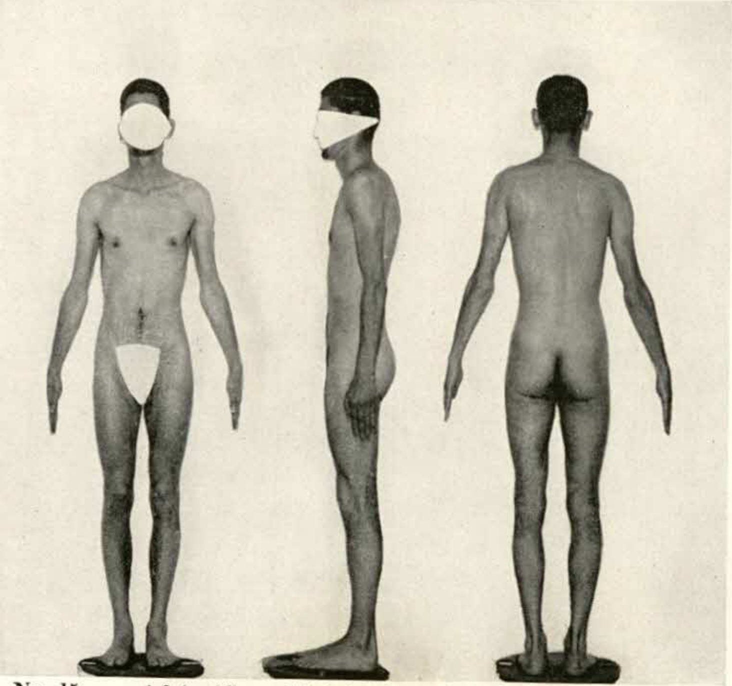


No. 13 *1 2 6* (*3*) 1 2 6–1 3 6 (1 2½ 6) 14.22 at 19
1 2 7, 1 2½ 6, 1 2½ 6, 1½ 2½ 6, 1½ 3 6

126

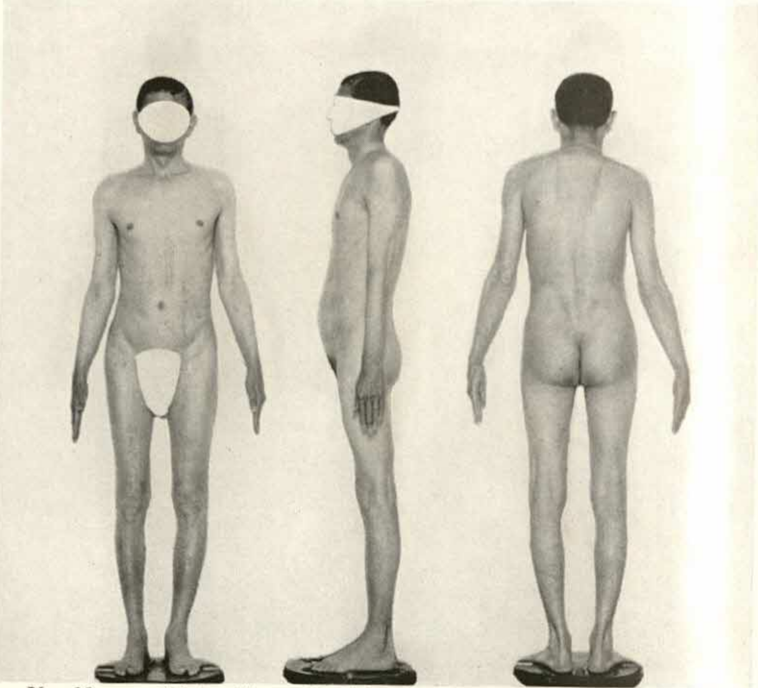


No. 14 *1 2 6* (*4*) 1 2 6–2 1 6 (1½ 1½ 6) 14.30 at 18
1½ 1½ 6, 1½ 1 6, 1 1½ 6, 1½ 1½ 6, 1½ 1½ 6

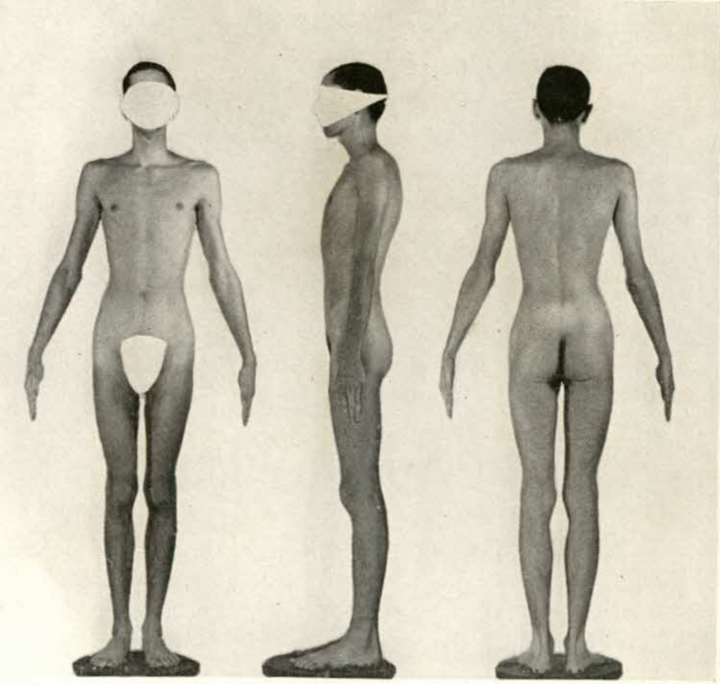


No. 15 *1 2 6* (*5*) 1 2 6–2 1 6 (1½ 1½ 6) 14.10 at 38
1½ 2 5½, 1½ 1½ 6, 1 1½ 6½, 1½ 1½ 6½, 2 2 5½

126

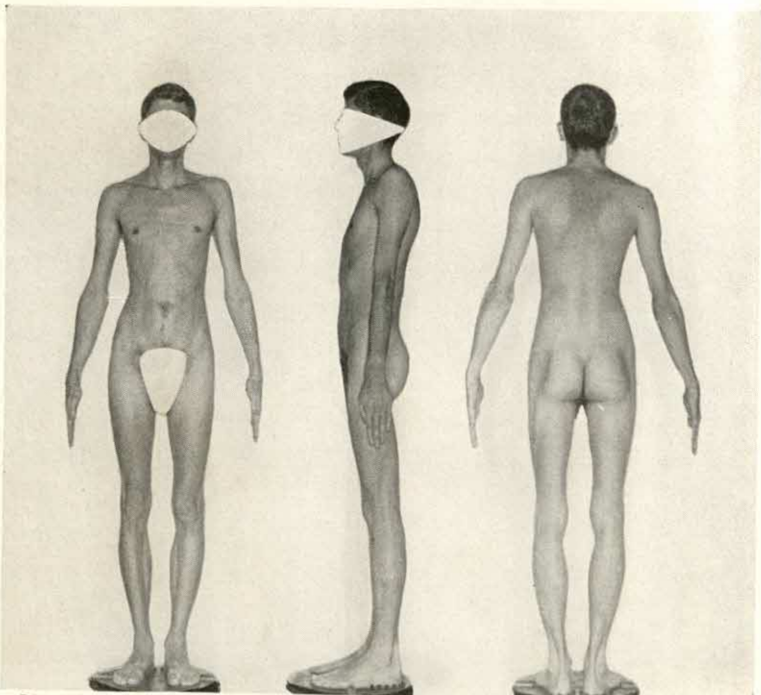


No. 16 *1 2 6* (*6*) 1 2 6–2 1 6 (1½ 1½ 6) 14.11 at 50
1½ 2 6, 1½ 1½ 6, 1½ 1 6½, 1½ 1½ 6, 1½ 1 6½



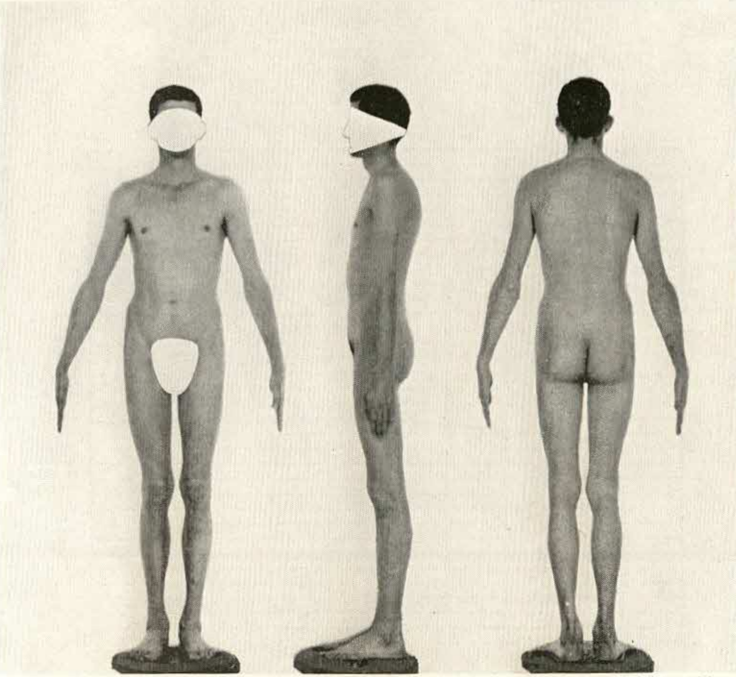
o. 17 *1 2 6* (*7*) 1 2 6–2 1 7 (1½ 1½ 6½) 14.37 at 20
1½ 1½ 6½, 1½ 1½ 6½, 1½ 1½ 7, 1½ 1½ 7, 1½ 2 6½

126

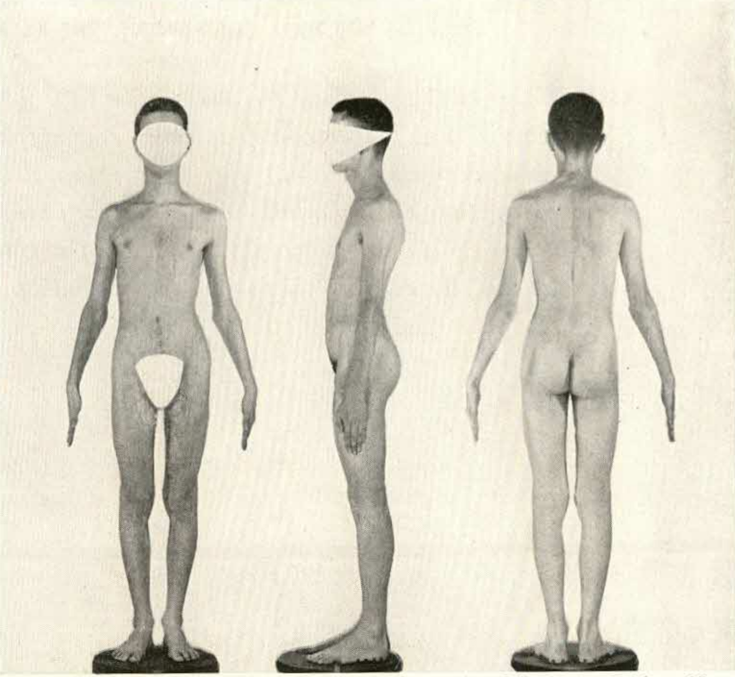


No. 18 *1 2 6* (*8*) 1 2 6–2 1 7 (1½ 1½ 6½) 14.33 at 29
1½ 1½ 6½. 1½ 1 7, 1½ 1½ 7, 1½ 1½ 6½, 1 2 6½

126

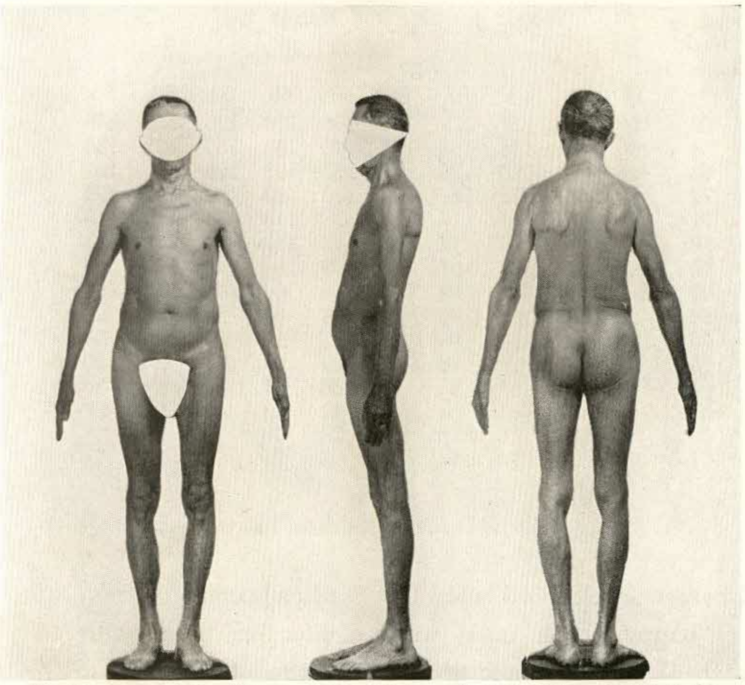


No. 19 *1 2 6* (*9*) 1 2 6–2 1 7 (1½ 1½ 6½) 14.25 at 44
1½ 1½ 6½, 1½ 1½ 6½, 1½ 1½ 6½, 2 1½ 6½, 1½ 1½ 6½

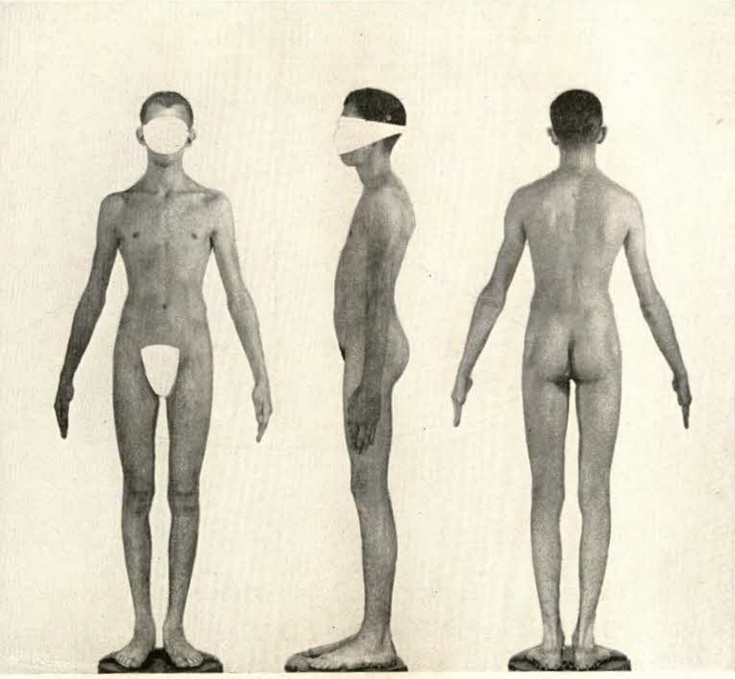


No. 20 *1 2 6* (*10*) 1 2 6–2 2 5 (1½ 2 5½) 14.16 at 18
1½ 2 5½, 1½ 1½ 6, 1½ 1½ 6½, 2 2 5, 2 2 5

126

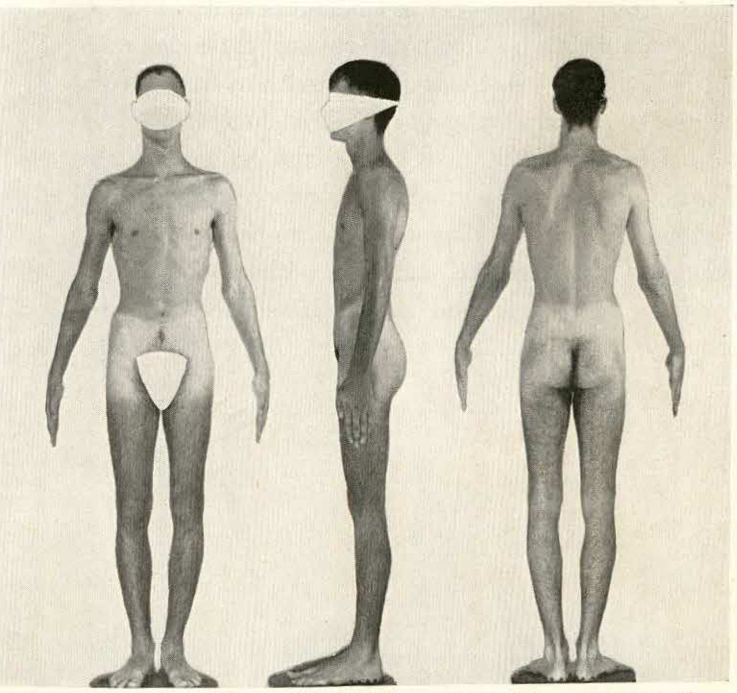


No. 21 *1 2 6* (*11*) 1 2 6–2 2 5 (1½ 2 5½) 13.93 at 66
2 2 5, 1½ 2 5½, 1 2 6, 1½ 2 6, 1½ 2 6

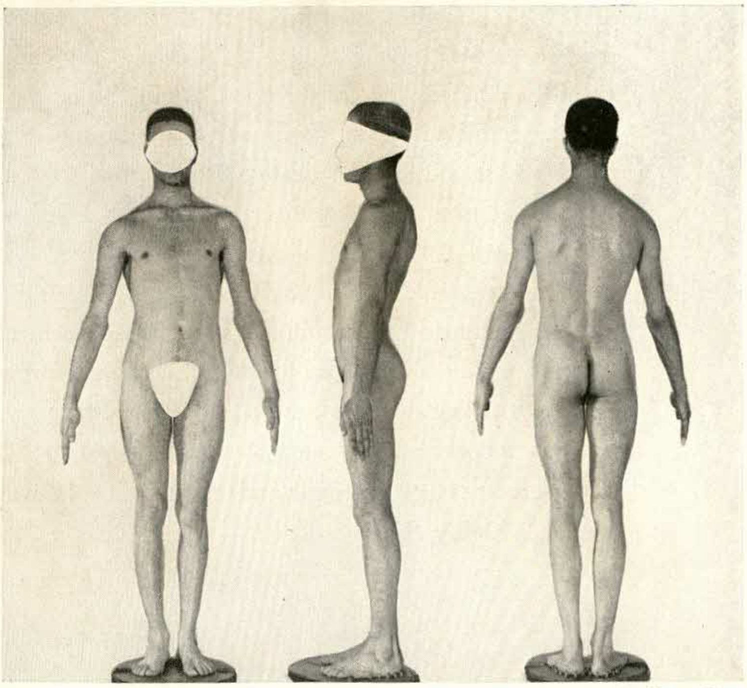


No. 22 *1 2 6* (*12*) 1 2 6–2 2 6 (1½ 2 6) 14.21 at 18
1½ 2 6, 1½ 1½ 6, 1½ 2 6, 1½ 2 6, 1½ 2 6½

126

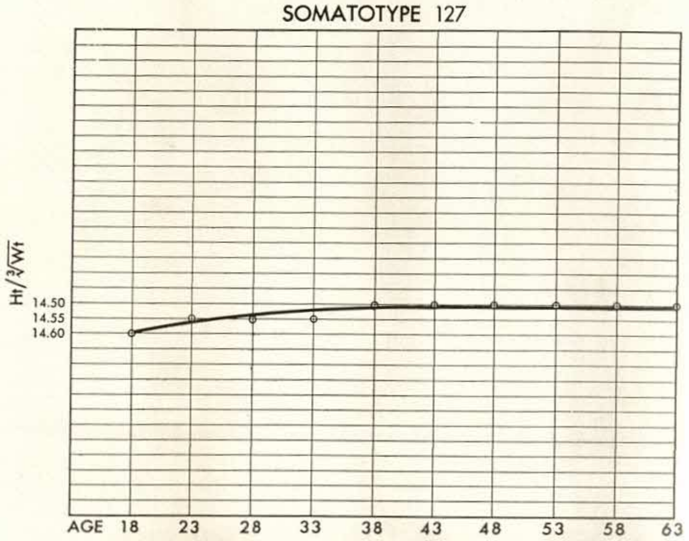


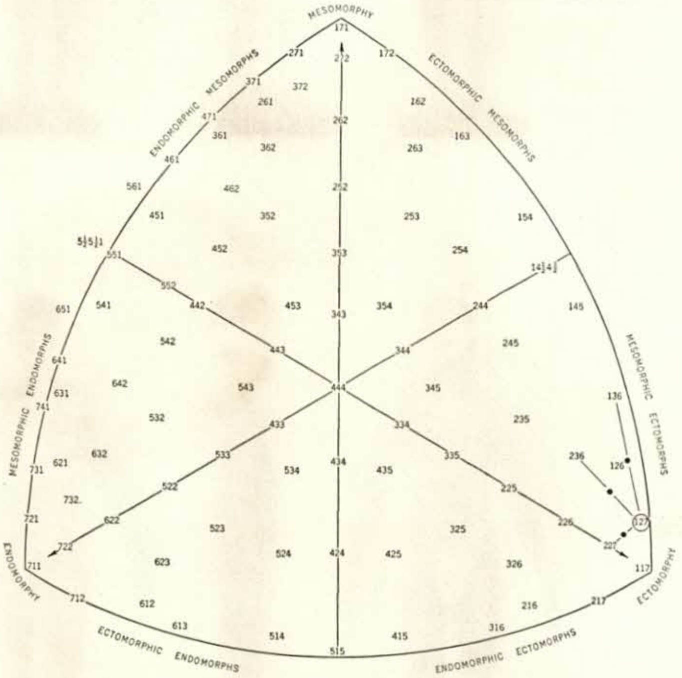
No. 23 *1 2 6* (*13*) 1 2 6–2 2 7 (1½ 2 6½) 14.31 at 18
1½ 2 6½, 1½ 2½ 6, 1½ 2½ 6½, 1½ 2 6½, 1½ 2 6



No. 24 *1 2 6* (*14*) 1 2 6–2 3 5 (1½ 2½ 5½) 13.99 at 24
1½ 3 5½, 1½ 3 5½, 1 2½ 5½, 1½ 2½ 5½, 2 2 5½

Somatotype 1 2 7 *(Mesomorphic polar ectomorphy at extreme endopenia, 10-level.) Big wasps. More delicate and destructible than the little wasps, for they are even less compact—more ectomorphic. Killed by a careless gesture, but for all that they can sting resolutely. Nos. 28–34.*



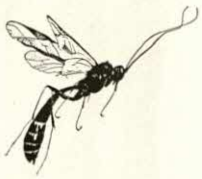


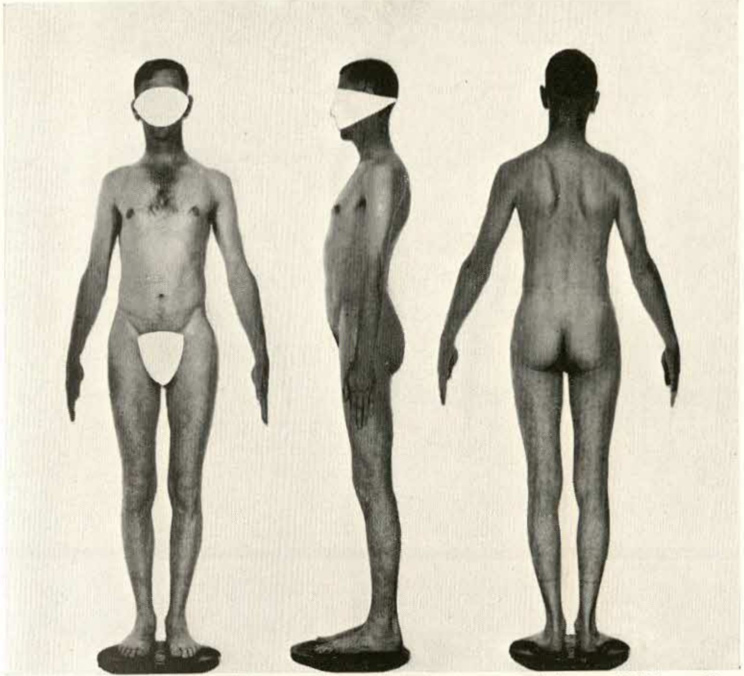
Weight for Age and Height

Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	136	136	137	137	138	138	139	139	138	138
74	130	131	132	132	132	132	133	133	132	132
73	125	126	126	126	127	127	128	128	127	127
72	120	121	121	121	122	122	123	123	122	122
71	116	116	117	117	118	118	118	118	118	118
70	111	111	112	112	113	113	113	113	113	113
69	107	107	107	107	108	108	109	109	108	108
68	102	102	103	103	104	104	104	104	104	104
67	98	98	98	98	99	99	99	99	99	99
66	93	93	94	94	95	95	95	95	95	95
65	89	89	90	90	90	90	91	91	90	90
64	84	85	85	85	86	86	87	87	86	86
63	81	81	81	81	82	82	83	83	82	82
62	77	78	78	78	78	78	79	79	78	78
61	73	74	74	74	74	75	75	75	75	74

Rarity 4. Incidence 1 per thousand. Scarce indeed but far less so than the 1 1 7 and distinctly commoner than the 1 2 6. Again we see the very flat curve of nutrition, and this is perhaps the flattest of the entire series of 88. It is almost identical with the 1 1 7 curve but does not show the slight downward curl at the end. Apparently the 1 2 7 is longer lived. As in the case of the other extreme endopenes who are also extreme or polar ectomorphs, the weight change from youth to old age is so slight that it is almost negligible. The 1 2 7 is like a *reënforced* 1 1 7, stiffened up and toughened a little, as if for greater durability and for longer life, and in so light a structure the seemingly slight increase in mesomorphy makes a remarkable difference in performance. Men of this somatotype are usually tall, often very tall, and when coördination and muscular tone are good there is an erectness of carriage and a resilience in walking which is highly characteristic.

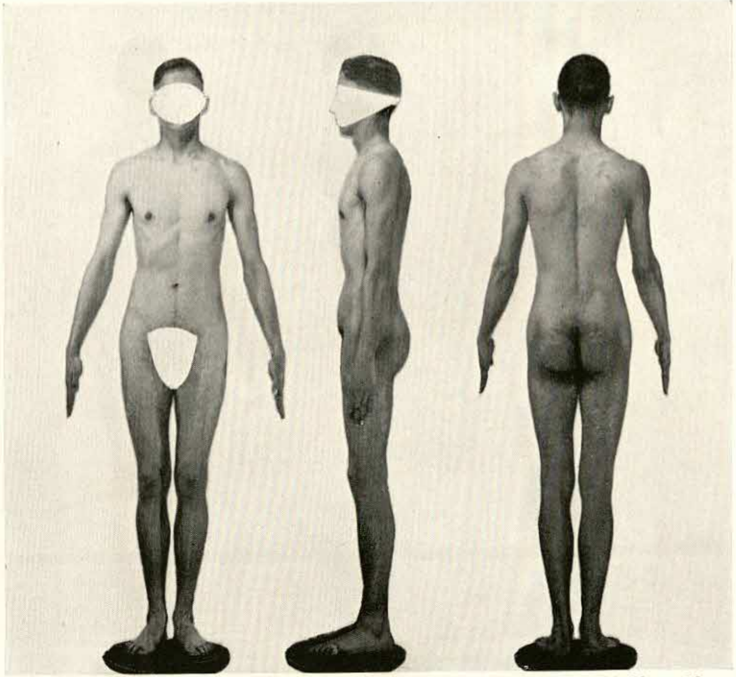
Energetic, well coördinated 1 2 7's often become successful, happy men in many walks of life. Such men, with their light bodies and long legs, frequently are great hikers and lovers of the outdoors, although preferably in flat or coastal country—not in mountain country. (Mountain country calls for comparatively heavy, mesomorphic legs.) The 1 2 7 sometimes gets himself involved in competitive minor athletics, and may meet unnecessary frustration because of it. Like all extreme ectomorphs this somatotype is disproportionately common in the mental hospitals, where the diagnosis is often hebephrenic or paranoid schizophrenia, and also is disproportionately common in colleges and similar havens of protected security.



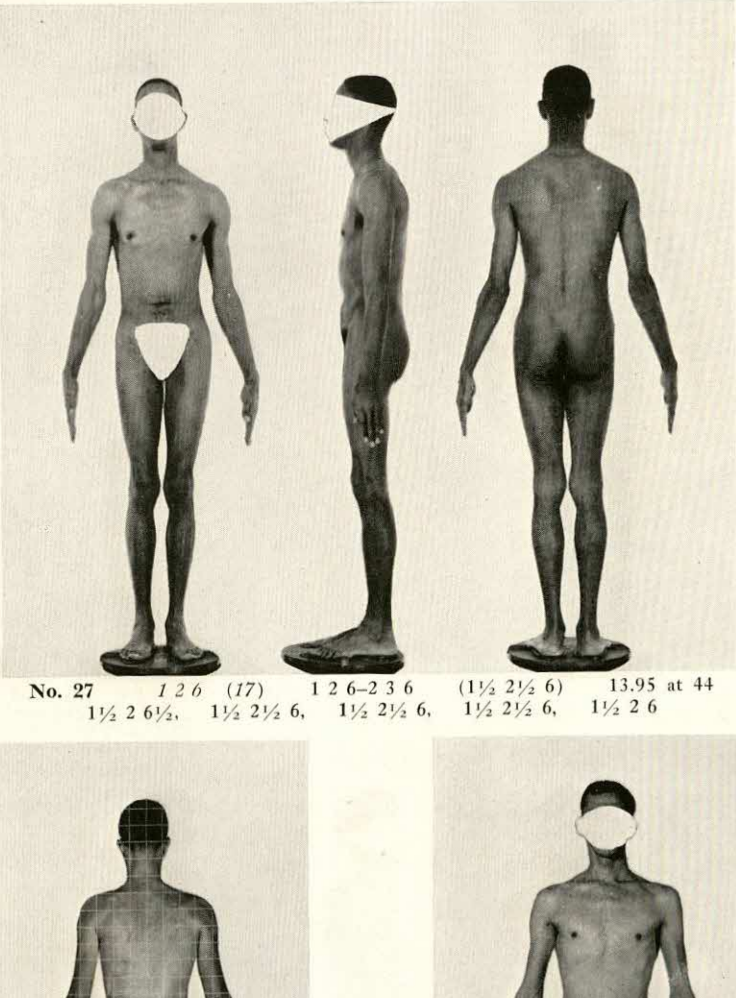


No. 25 *1 2 6* (*15*) 1 2 6–2 3 5 1½ 2½ 5½) 13.81 at 48
1½ 2½ 6, 1½ 2 5½, 1½ 2½ 5½, 1½ 2 5½, 2 2½ 5½

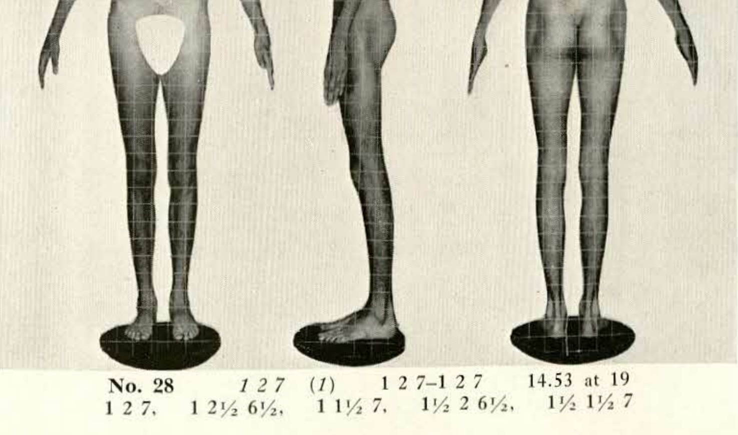
126



No. 26 *1 2 6* (*16*) 1 2 6–2 3 6 (1½ 2½ 6) 14.06 at 22
1½ 3 6, 1½ 3 5½, 1½ 2½ 6, 1½ 2½ 6, 2 2 6

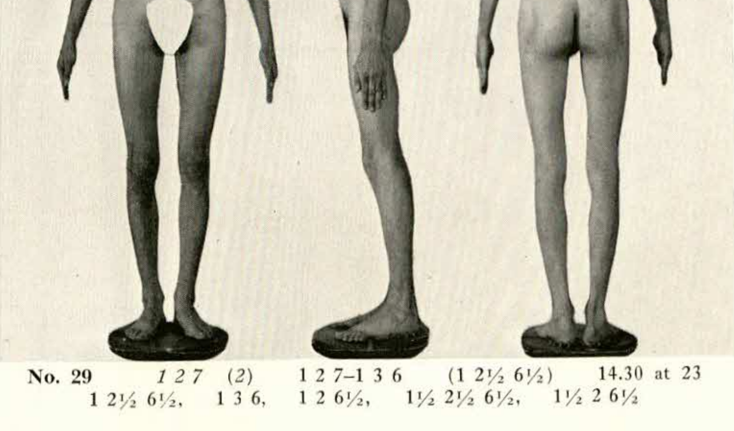


No. 27 *1 2 6* (*17*) 1 2 6–2 3 6 (1½ 2½ 6) 13.95 at 44
1½ 2 6½, 1½ 2½ 6, 1½ 2½ 6, 1½ 2½ 6, 1½ 2 6

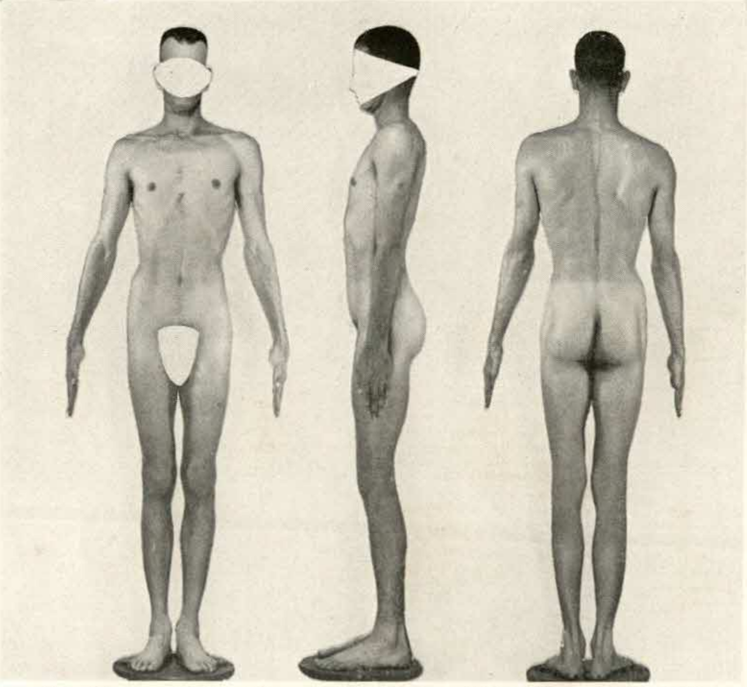


No. 28 *1 2 7* (*1*) 1 2 7–1 2 7 14.53 at 19
1 2 7, 1 2½ 6½, 1 1½ 7, 1½ 2 6½, 1½ 1½ 7

127

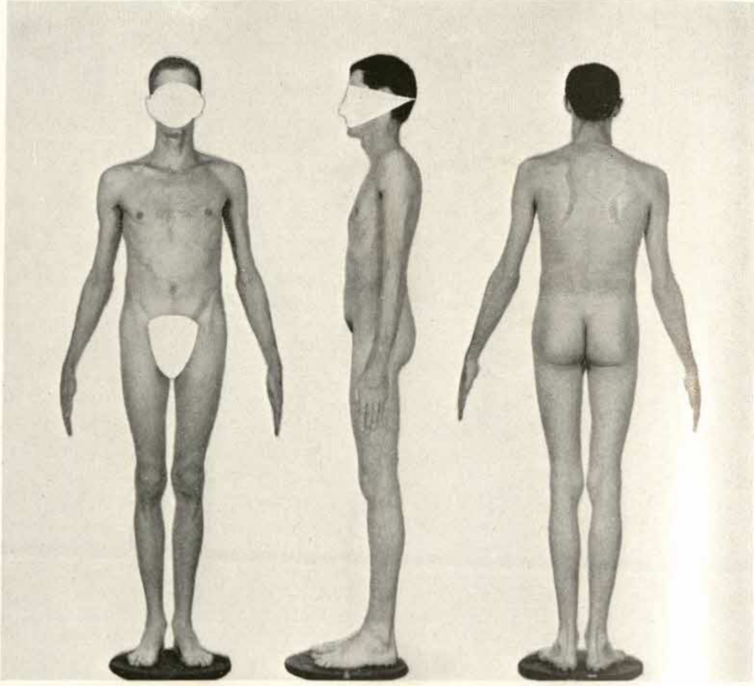


No. 29 *1 2 7* (*2*) 1 2 7–1 3 6 (1 2½ 6½) 14.30 at 23
1 2½ 6½, 1 3 6, 1 2 6½, 1½ 2½ 6½, 1½ 2 6½

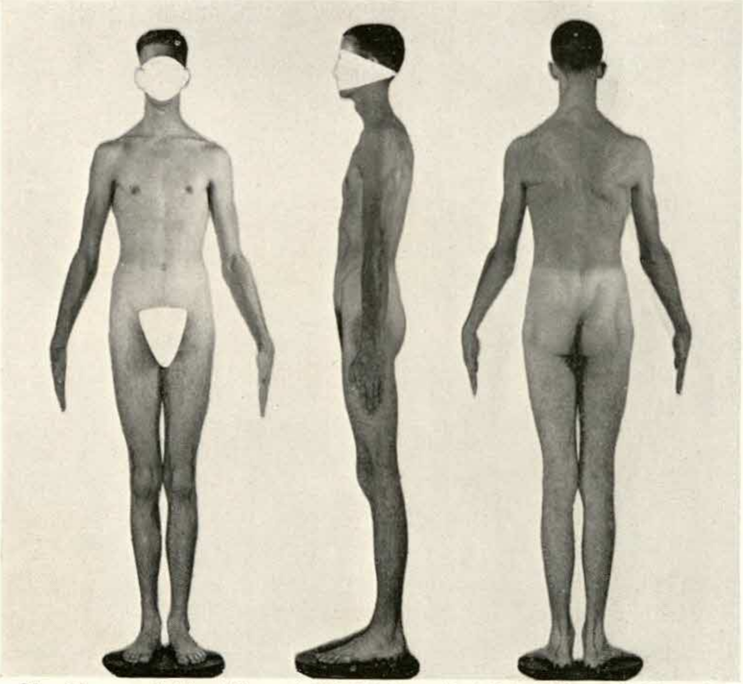


No. 30 *1 2 7* *(3)* 1 2 7–2 2 7 (1½ 2 7) 14.29 at 24
1½ 2 7, 1½ 2½ 6½, 1½ 2½ 6½, 1½ 2 7, 1½ 2 7

127

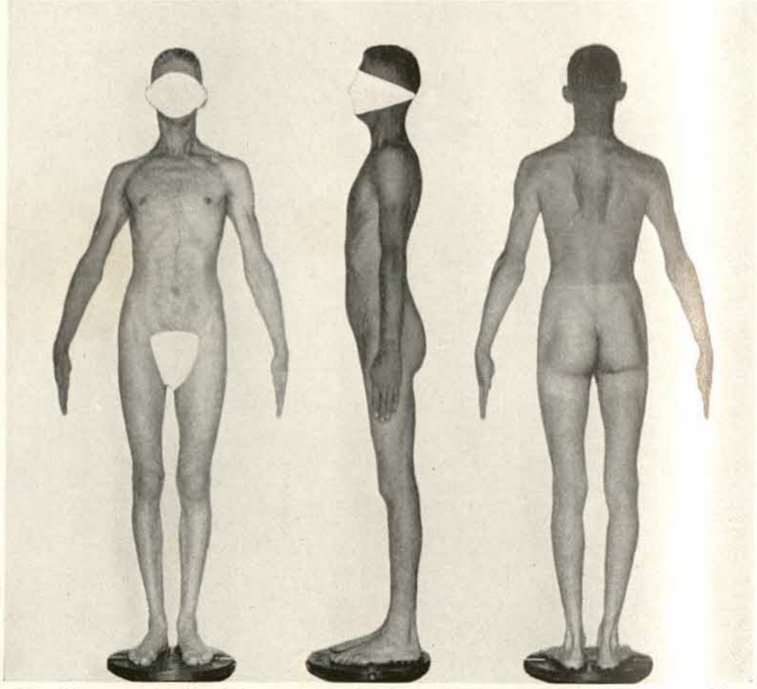


No. 31 *1 2 7* *(4)* 1 2 7–2 2 7 (1½ 2 7) 14.33 at 26
1½ 2 7, 1½ 2 7, 1½ 1½ 7, 1½ 2 7, 1½ 1½ 7

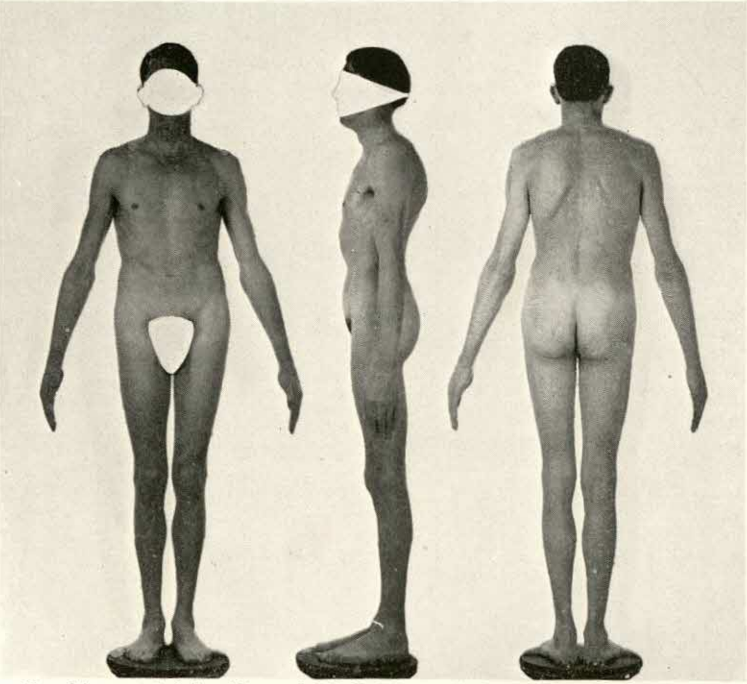


No. 32 *1 2 7* (5) 1 2 7–2 3 6 (1½ 2½ 6½) 14.30 at 18
1½ 2½ 6½, 1½ 2½ 6½, 1 3 6, 1½ 2½ 6½, 2 2½ 6½

127



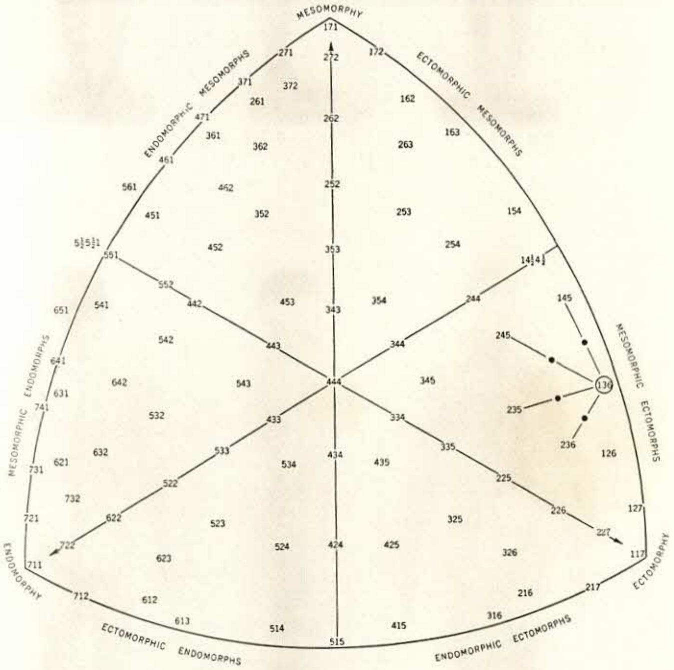
No. 33 *1 2 7* *(6)* 1 2 7–2 3 6 (1½ 2½ 6½) 14.22 at 25
1½ 2½ 6½, 1 2½ 6½, 1½ 2½ 6, 1½ 2 6½, 1½ 2 6½

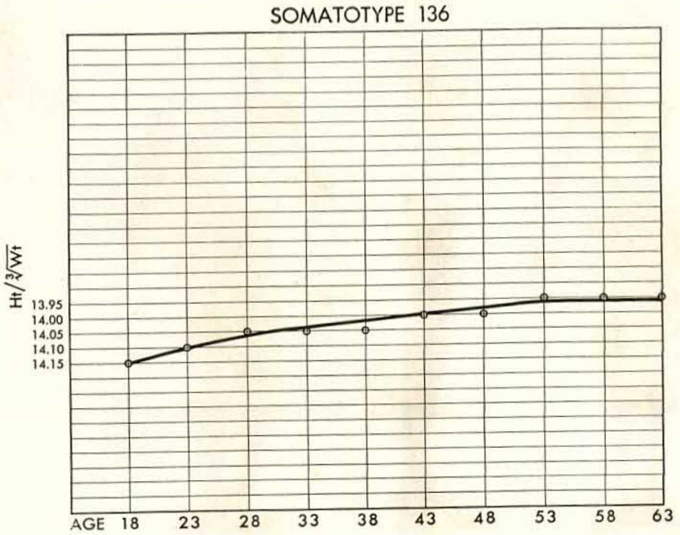


No. 34 *1 2 7* (7) 1 2 7–2 3 6 (1½ 2½ 6½) 14.07 at 47
1½ 3 5½, 1½ 3 6, 1½ 2 6½, 1½ 2½ 6½, 1½ 1½ 7

3. FLYCATCHERS

Somatotype 1 3 6 *(Mesomorphic extreme ectomorphy at extreme endopenia, 10-level.) Flycatchers. Frail, lightly built birds who yet are fierce-hearted hunters. You see them scolding and chasing crows, or even the great hawks, away from their nesting grounds. Fragile but fearless mites. Nos. 35–42.*





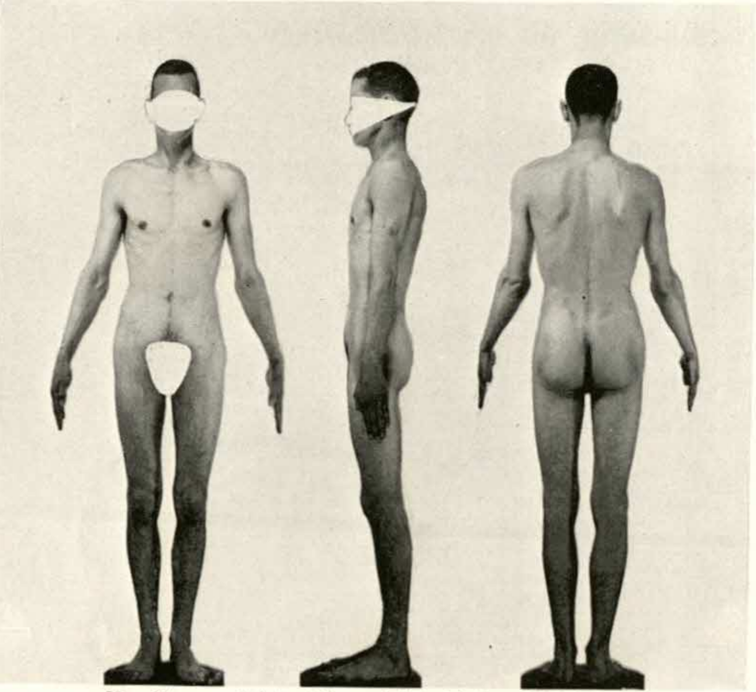
Weight for Age and Height

Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	149	151	151	151	152	153	154	155	155	156
74	143	144	145	145	146	146	147	148	148	149
73	137	139	139	139	140	140	141	142	142	143
72	132	133	134	134	134	135	136	136	137	137
71	127	128	129	129	129	130	130	131	131	132
70	122	123	123	124	124	124	125	125	126	126
69	117	118	118	119	119	119	120	120	121	121
68	112	113	113	114	114	114	115	115	116	116
67	107	108	108	108	109	109	110	110	111	111
66	102	103	103	103	104	104	105	105	106	106
65	97	98	99	99	99	99	100	100	101	101
64	93	93	94	94	95	95	96	96	97	97
63	89	89	90	90	90	90	91	91	92	92
62	85	86	86	86	86	87	87	87	88	88
61	81	82	82	82	82	83	83	83	84	84

Rarity 4. Incidence 3 per thousand. Still very scarce, but three times more common than the 1 2 7, and often enough seen on the streets or in public places to be quite a distinct entity in the minds of observant people, even those not particularly conversant with somatotyping. In New York, if you ride the subways or inhabit the railway stations you have about as good a chance to see a 1 3 6 on any particular day as your country cousin has to see a hen pheasant. The nutrition curve is still very flat, as in all endopenia, but the 1 3 6 does not appear quite so harshly lean in middle age as he does in early life. He will gain four or five pounds in the course of adult life, at average stature, while the 1 2 7 does less than half that well.

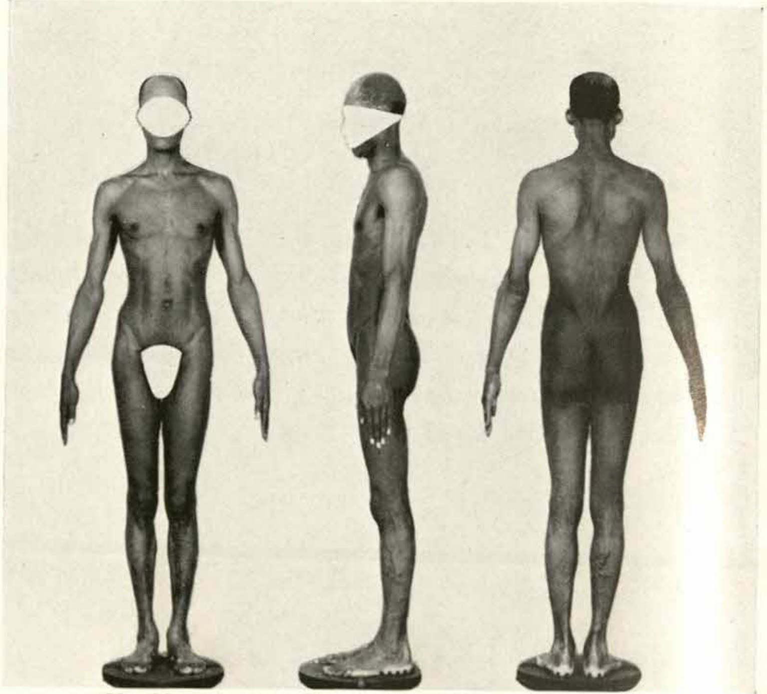
The 1 3 6 tends to be agile, is likely to be competent at long-distance walking or hiking, and is occasionally able to compete at cross-country running. Far too light and brittle for the athletic games involving rough bodily contact, youngsters of this somatotype, encouraged by their quickness and agility, tend like the 1 2 7 to involve themselves in athletic ambitions leading to serious frustration. That is to say, they give emotional hostages to a kind of achievement which lies far outside their natural potentialities.

When found in the mental hospital, which is perhaps a most likely place to hunt him, the 1 3 6 is most often labeled *paranoid schizophrenia.* He has moved up toward the Northeast, somewhat away from the land of hebephrenia and toward the citadel of paranoia. But if the 1 3 6 is sometimes paranoid he is often heroic. For wherever paranoia dwells, there also is the home of heroic devotion. (See Vol. 3, Chapter 2.)

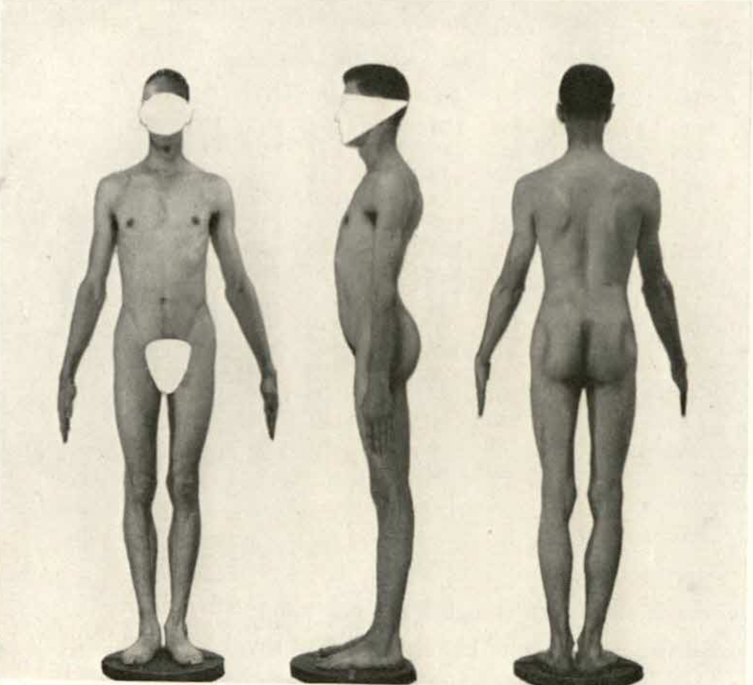


No. 35 *1 3 6* (*1*) 1 3 6–1 3 6 14.04 at 27
1 3 6, 1 3½ 5½, 1 3½ 5½, 1½ 3 6, 1½ 3 6

136

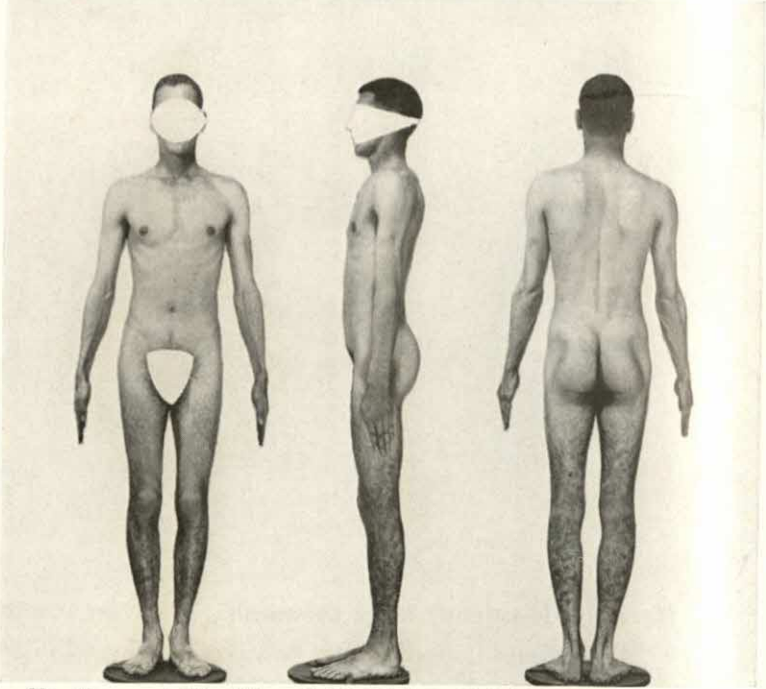


No. 36 *1 3 6* (*2*) 1 3 6–1 3 6 14.00 at 47
1 3 6, 1 3 6, 1 3 6, 1 3 6, 1½ 3 6

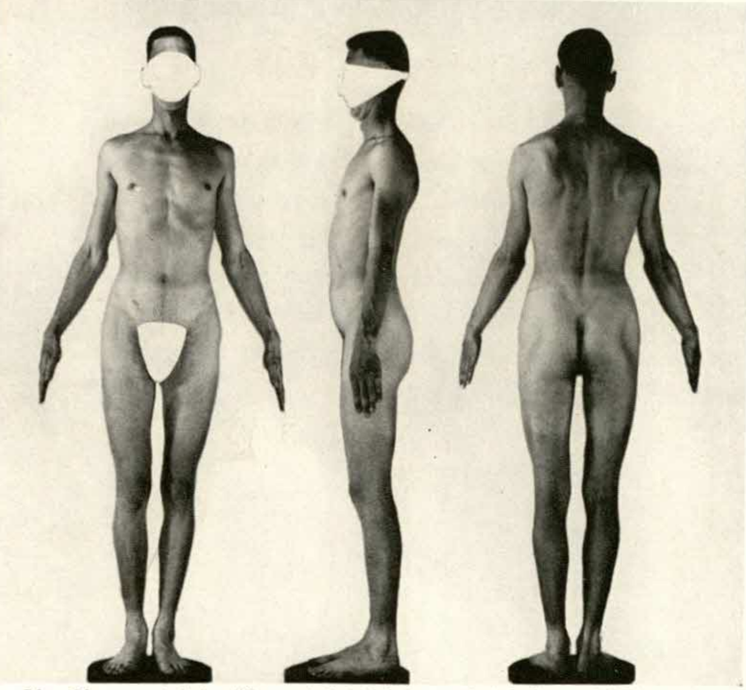


No. 37 *1 3 6* (*3*) 1 3 6–1 4 5 (1 3½ 5½) 13.99 at 21
1 3 6, 1 3½ 5½, 1 3½ 5½, 1 3½ 5½, 1½ 3 5½

136

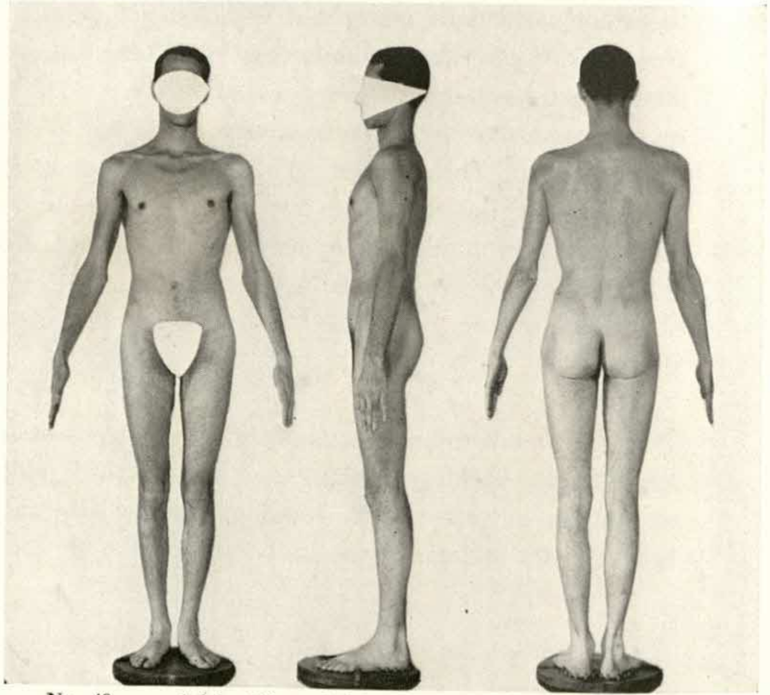


No. 38 *1 3 6* (*4*) 1 3 6–2 3 5 (1½ 3 5½) 13.93 at 21
1½ 3 5½, 1½ 3½ 5, 1½ 3 5½, 1½ 3 5½, 1½ 3 5½



No. 39 *1 3 6* (*5*) 1 3 6–2 3 6 (1½ 3 6) 13.96 at 25
1½ 3 6, 1½ 3 6, 1½ 3 5½, 1½ 3 6, 1½ 3 6

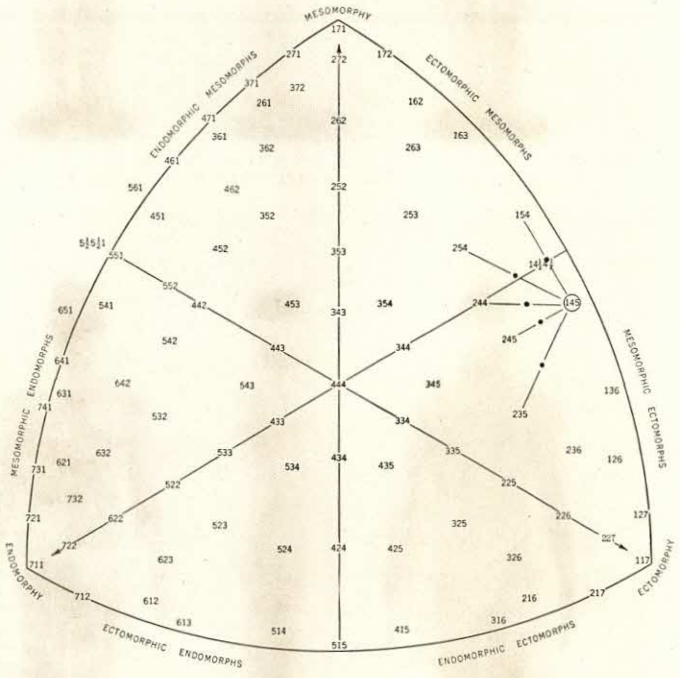
136

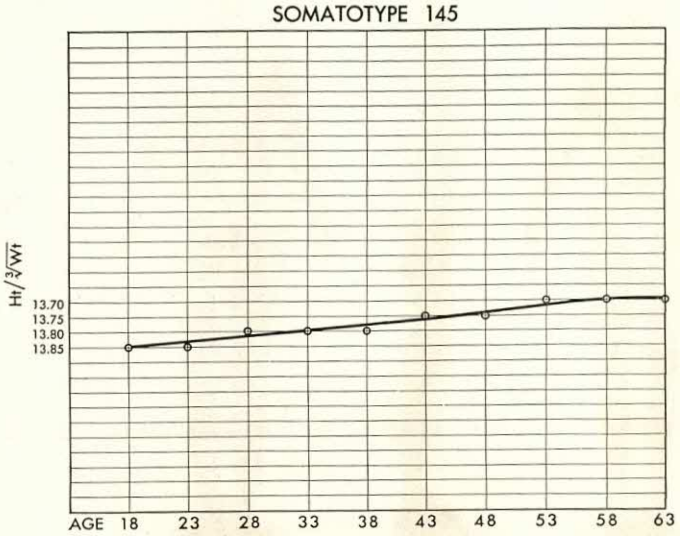


No. 40 *1 3 6* (*6*) 1 3 6–2 3 6 (1½ 3 6) 13.98 at 25
1½ 3½ 5½, 1½ 3 6, 1½ 2 6½, 1½ 3 6, 1½ 2½ 6

4. LITTLE FALCONS

Somatotype 1 4 5 *(Mesomorphic ectomorphy at extreme endopenia, 10-level.) Lesser falcons. Sparrow hawks. Merlins. Fragile, graceful, but incredibly agile hunters who are rapacious eaters of fresh meat. Nos. 43–61.*





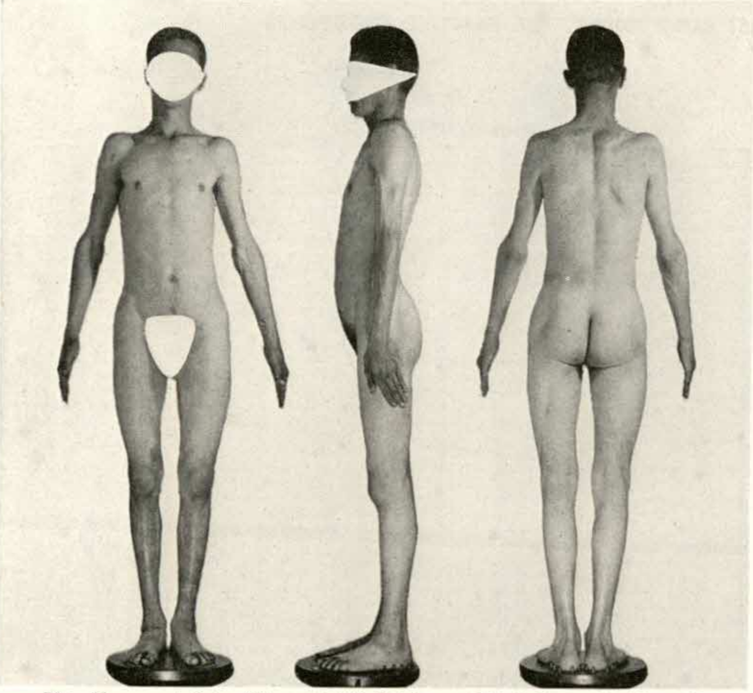
Weight for Age and Height

Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	158	159	160	160	161	162	162	163	163	164
74	151	151	152	153	154	155	155	156	156	157
73	145	145	146	147	148	149	149	150	150	151
72	139	140	141	141	142	143	143	144	144	145
71	134	134	135	135	136	137	137	138	138	139
70	128	129	130	130	131	131	131	132	133	133
69	123	123	124	125	125	126	126	127	127	127
68	118	118	119	119	120	120	121	121	122	122
67	112	113	114	114	115	115	115	116	116	116
66	107	108	109	109	109	110	110	111	111	111
65	102	103	104	104	105	105	105	106	106	106
64	98	98	99	99	100	100	100	101	101	101
63	93	94	94	95	95	95	96	96	97	97
62	89	90	90	90	91	91	91	92	92	92
61	85	86	86	86	87	87	87	88	88	88

Rarity 3. Incidence 4 per thousand. Scarce enough to stand out in a crowd, and when you encounter one in a public place you will, if you are at heart a naturalist, watch him until he is out of sight. The biblical injunction of the averted eye does not apply to naturalists.

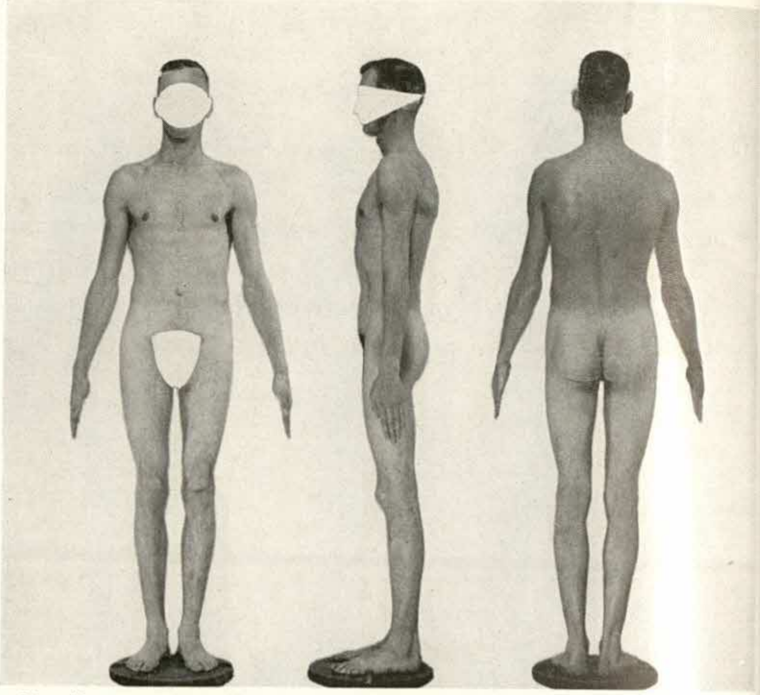
The characteristically flat nutrition curve remains the hallmark of this (endopenic) group of somatotypes, and the 1 4 5 is still an essentially brittle-delicate, not an essentially muscular personality. Yet the 1 4 5 is muscular *as well as* brittle, and since he approaches the mean for men in mesomorphy (mean, 4.11) he is sometimes genuinely competent at certain kinds of athletic enterprise. The predominant ectomorphy precludes successful competition at games such as football which involve violent bodily contact, but I know at least two 1 4 5's who have been college champions at cross-country running, and moderate competence at tennis is not uncommon for *large* 1 4 5's. Tournament tennis however is a most grueling game, and probably no important tennis championship has ever been won by a man who was not a mesomorph. There is in our series a 1 4 5 (1½ 4 5), 76 inches tall, who was a successful baseball pitcher at the high school level, although he was too brittle to make his college team. A boy of that somatotype would be unlikely to make an ordinary high school baseball team at any position other than pitcher.

This appears to be a rather long lived somatotype despite the frail brittleness. The 1 4 5 typically does not reach his full quota of weight until his early fifties, and as we find him in his middle sixties he as an average shows no indication of relinquishing it. The presumption is that at 65 he is not yet, as a rule, biologically old enough to have begun to jettison.

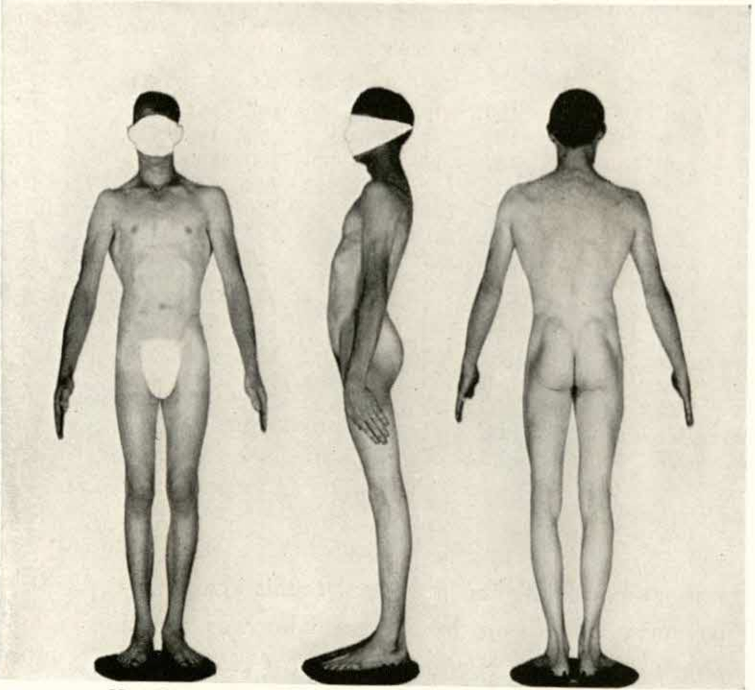


No. 41 *1 3 6* (*7*) 1 3 6–2 3 6 (1½ 3 6) 13.93 at 26
1½ 3½ 5½, 1½ 2½ 6, 1 2½ 6, 1½ 3 6, 1½ 2½ 6

136

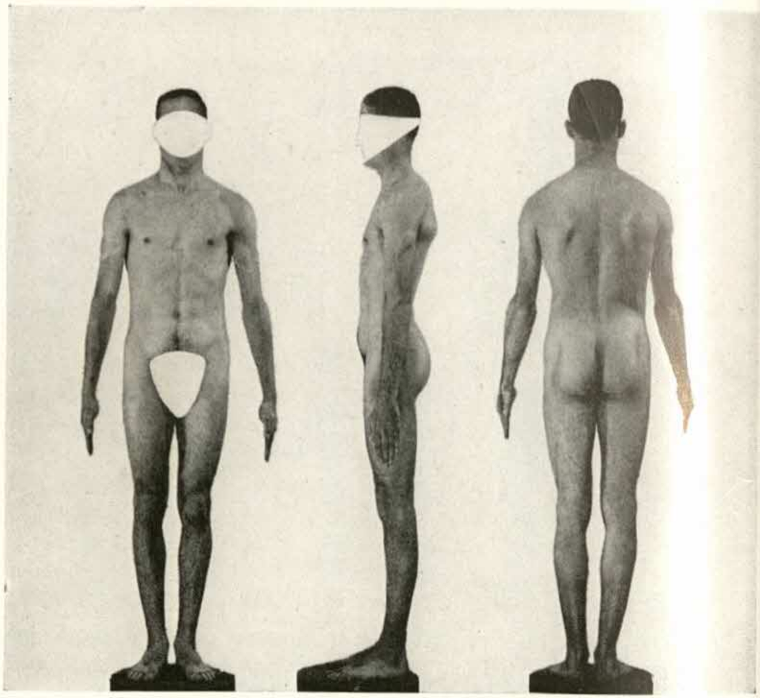


No. 42 *1 3 6* (*8*) 1 3 6–2 4 5 (1½ 3½ 5½) 13.86 at 21
1½ 3½ 5½, 1½ 4 5, 1½ 3 6, 2 4 5, 1½ 3½ 5½

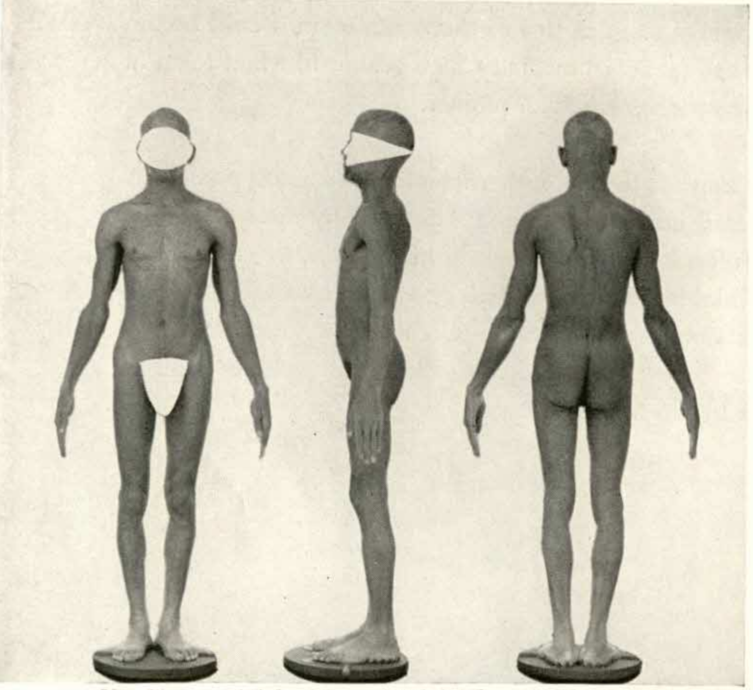


No. 43 *1 4 5* (*1*) 1 4 5–1 4 5 13.87 at 18
1 4 5, 1 4 5, 1 4 5, 1 3½ 5½, 1½ 3½ 5½

145

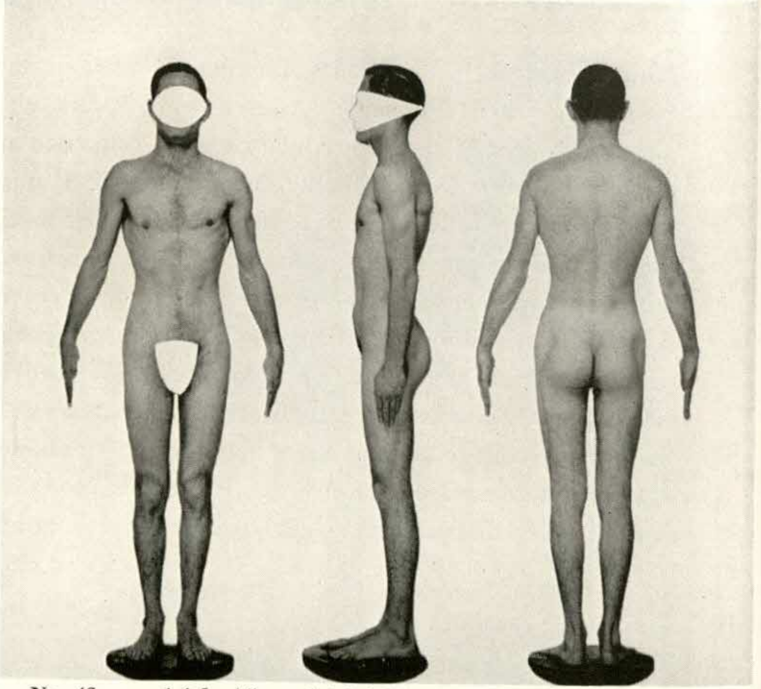


No. 44 *1 4 5* (*2*) 1 4 5–1 4 5 13.78 at 29
1½ 5 4, 1 4 5, 1 4 5, 1 4 5, 1½ 4 5

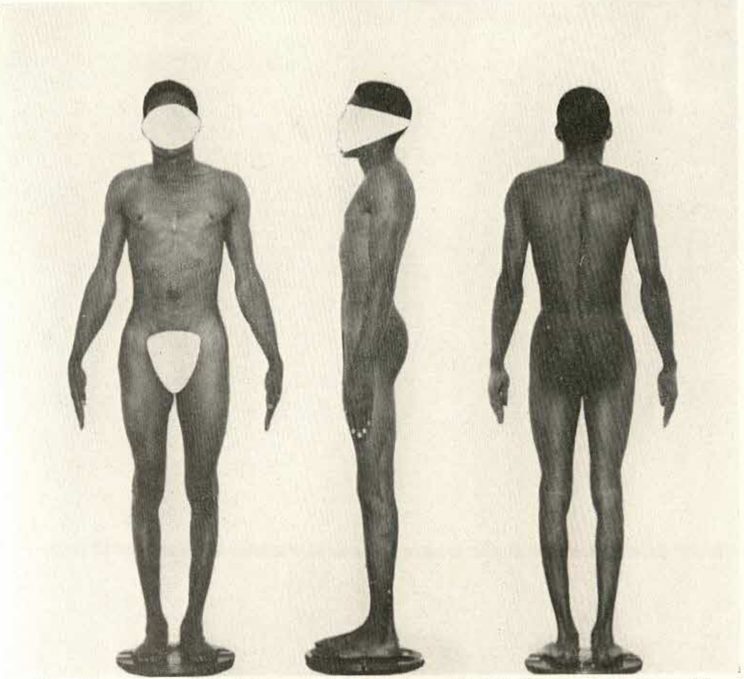


No. 45 *1 4 5* (*3*) 1 4 5–1 4 5 13.75 at 48
1 5 4, 1 4½ 4½, 1 3 6, 1 3½ 5½, 1 3 5½

145

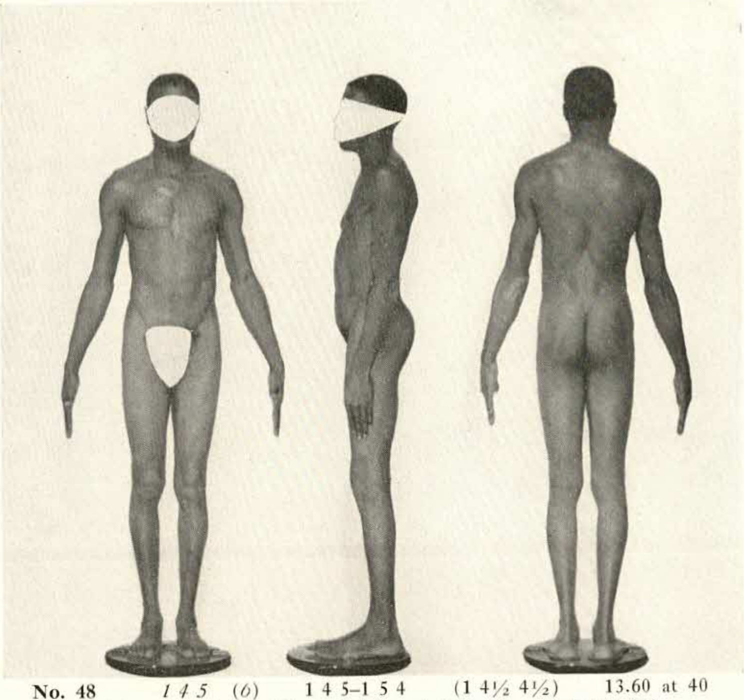


No. 46 *1 4 5* (*4*) 1 4 5–1 5 4 (1 4½ 4½) 13.68 at 19
1 5 4, 1 5 4, 1 4 5, 1 4½ 4½, 1½ 4 4½

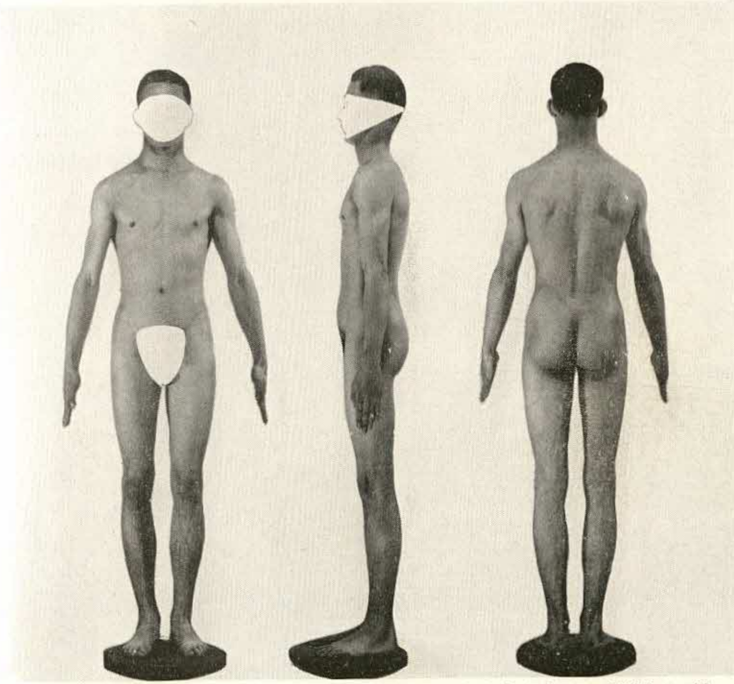


No. 47 *1 4 5* (*5*) 1 4 5–1 5 4 (1 4½ 4½) 13.67 at 24
1 5 4, 1 5 4, 1 4½ 4½, 1 4½ 4½, 1½ 4 5

145

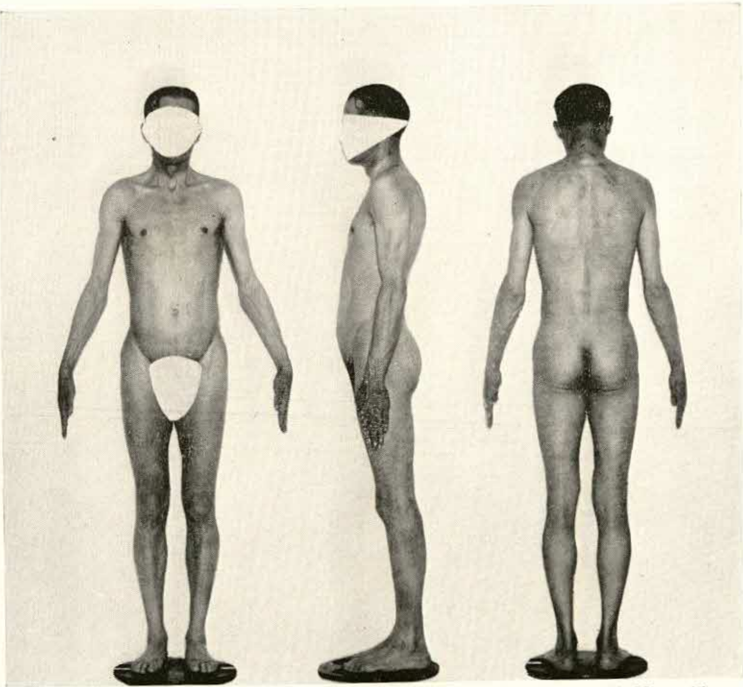


No. 48 *1 4 5* (*6*) 1 4 5–1 5 4 (1 4½ 4½) 13.60 at 40
1½ 4½ 4, 1 4½ 4½, 1 4 5, 1 4½ 4½, 1½ 3½ 5½

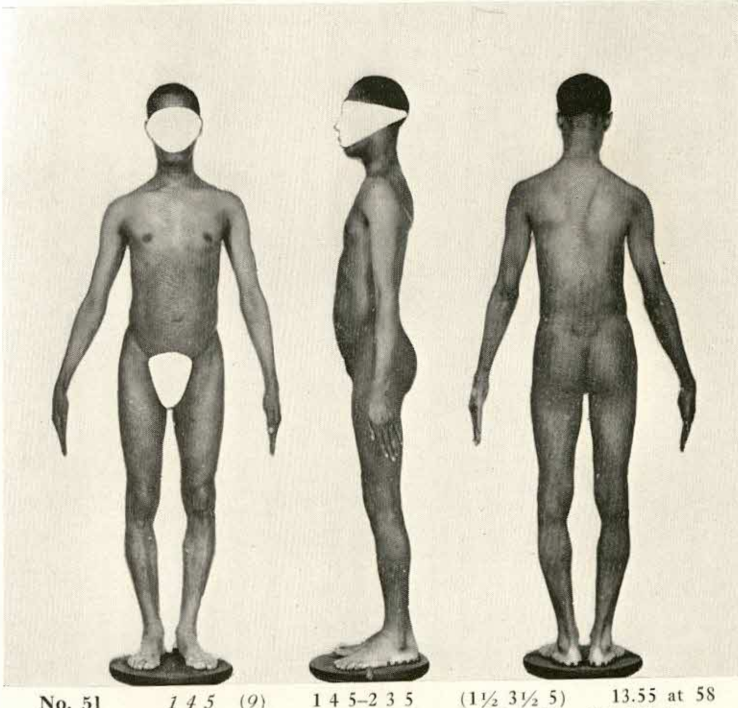


No. 49 *1 4 5* (*7*) 1 4 5–2 3 5 (1½ 3½ 5) 13.82 at 19
1½ 4 4½, 1½ 3½ 5, 1½ 3½ 5, 1½ 3½ 5, 1½ 3½ 5

145

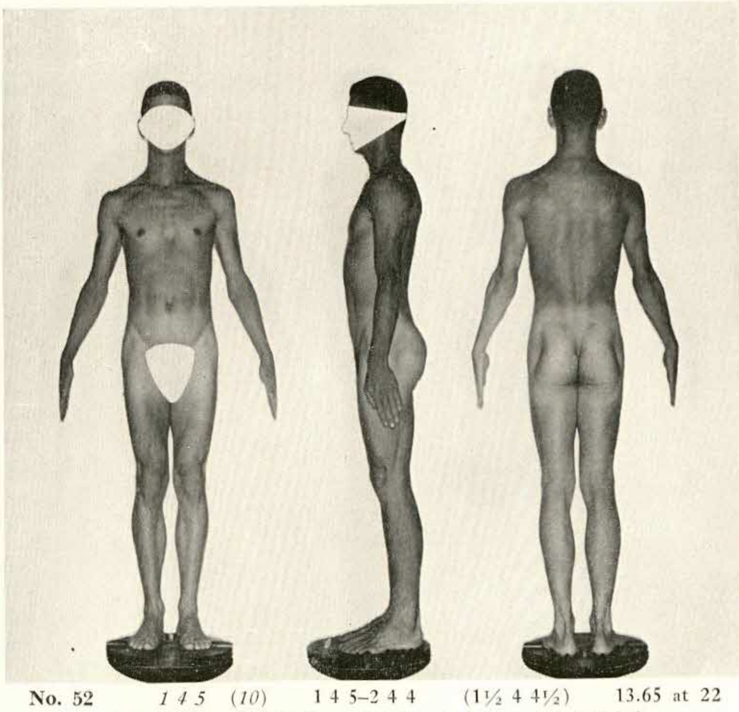


No. 50 *1 4 5* (*8*) 1 4 5–2 3 5 (1½ 3½ 5) 13.65 at 43
1½ 3½ 5, 1½ 3½ 5, 1½ 3½ 5, 1½ 4 5, 1½ 3½ 5



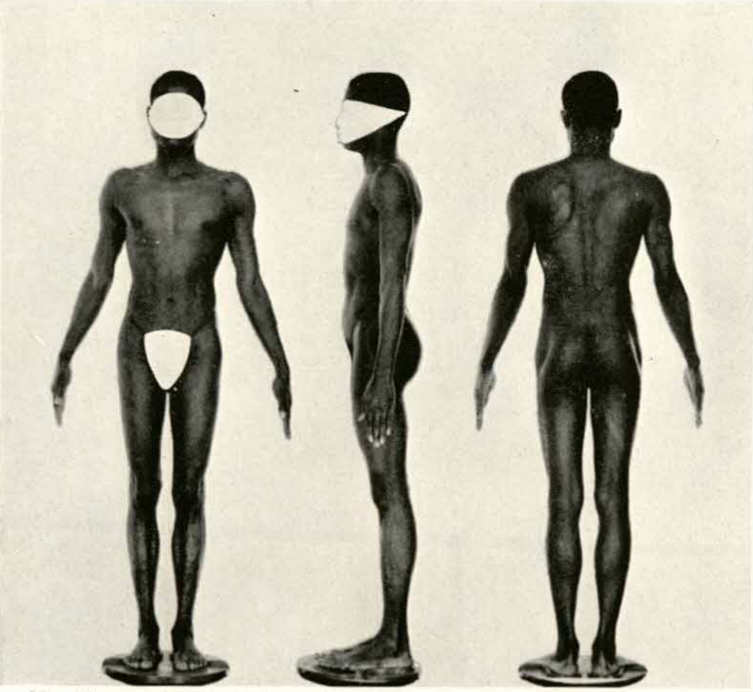
No. 51 *1 4 5* (*9*) 1 4 5–2 3 5 (1½ 3½ 5) 13.55 at 58
1½ 3½ 5, 1½ 3½ 5, 1½ 2½ 6, 1½ 3½ 5, 1½ 3½ 5

145

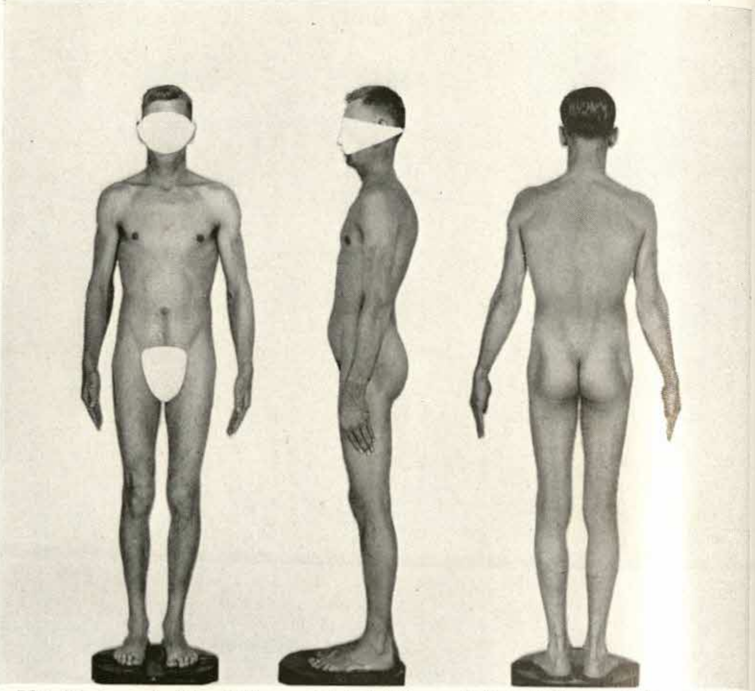


No. 52 *1 4 5* (*10*) 1 4 5–2 4 4 (1½ 4 4½) 13.65 at 22
1½ 4 4½, 1½ 4 4½, 1 4 5, 1 4 5, 1½ 4½ 4½

145

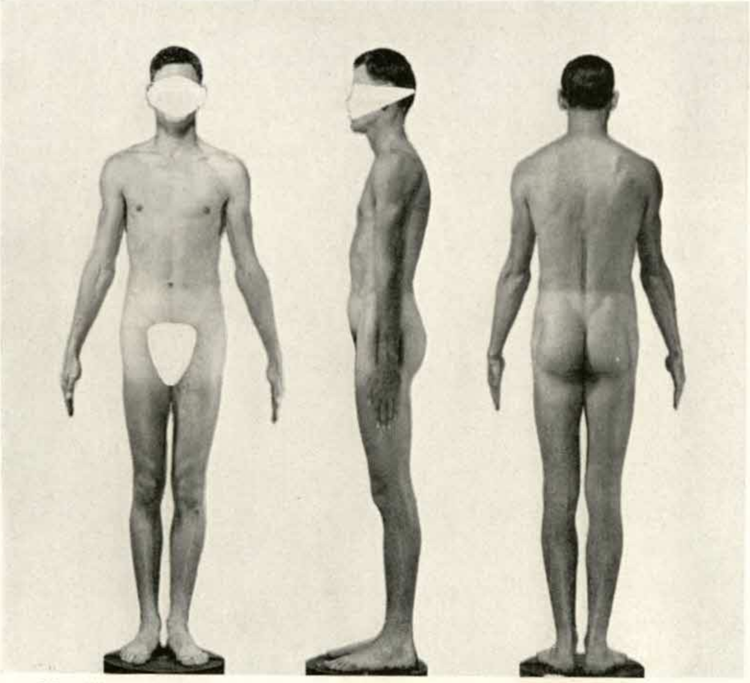


No. 53 *1 4 5* (*11*) 1 4 5–2 4 4 (1½ 4 4½) 13.57 at 27
2 4 4. 1½ 4½ 4. 1½ 3½ 5. 1½ 4 4½. 1½ 4½ 4½

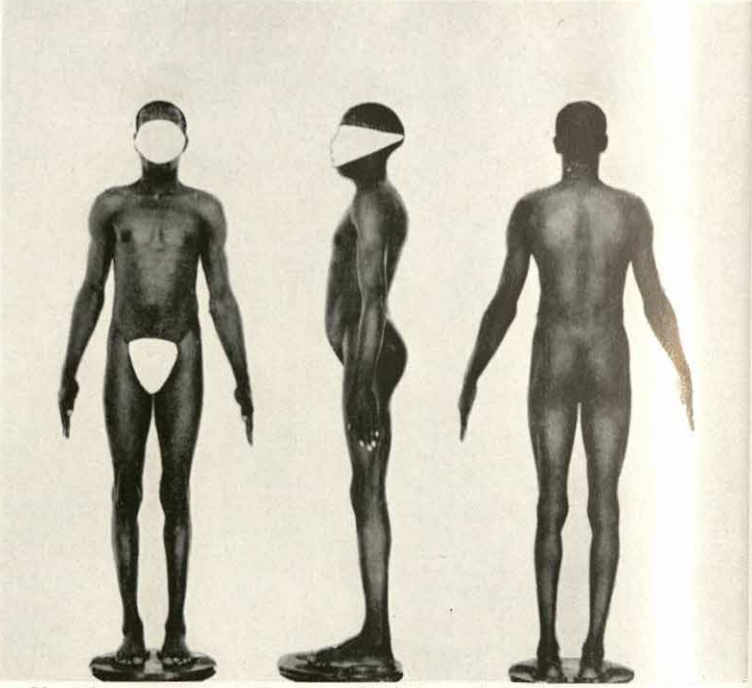


No. 54 *1 4 5* (*12*) 1 4 5–2 4 4 (1½ 4 4½) 13.42 at 40
1 4 5. 1½ 4½ 4. 1½ 4½ 4. 1½ 4 4½. 1½ 3½ 5

145

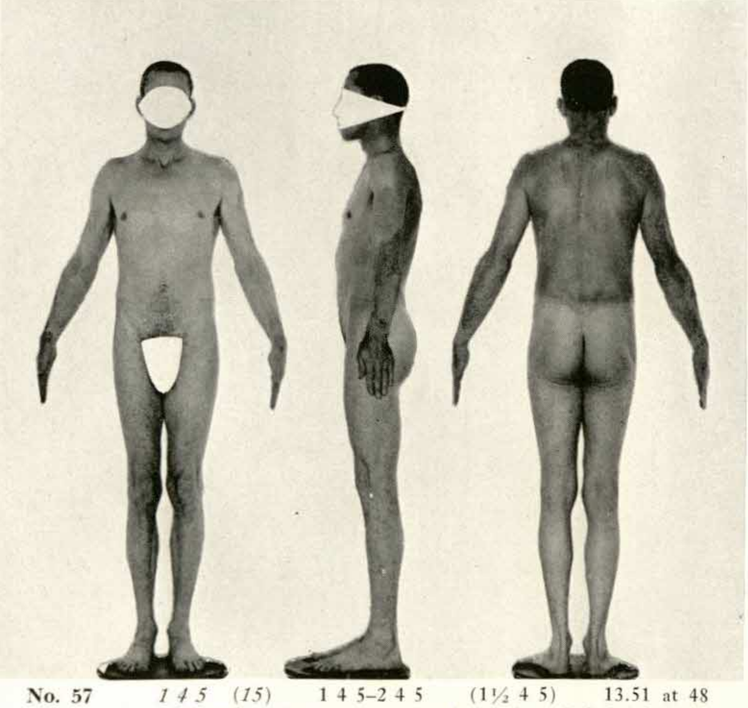


No. 55 *1 4 5* (*13*) 1 4 5–2 4 5 (1½ 4 5) 13.72 at 24
1½ 4 5. 1½ 4½ 4½. 1½ 4 5. 1½ 4½ 4½. 1½ 4 5

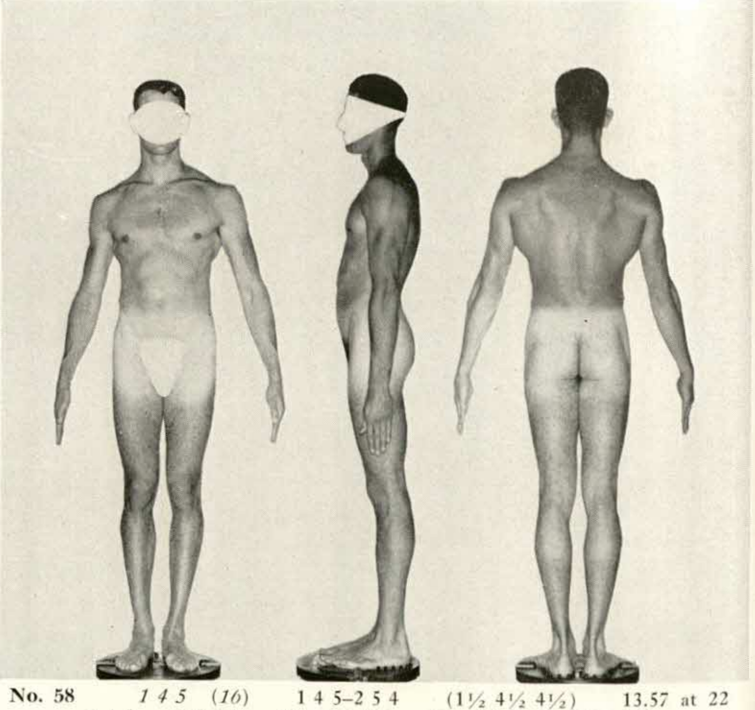


No. 56 *1 4 5* (*14*) 1 4 5–2 4 5 (1½ 4 5) 13.56 at 41
1½ 4 4½. 1½ 5 4. 1 4 5. 1½ 4 5. 1½ 3 6

145



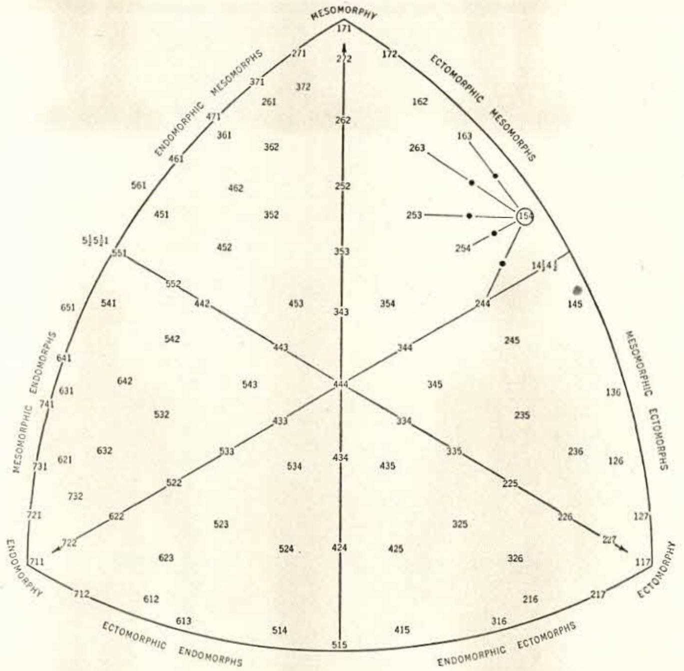
No. 57 *1 4 5* (*15*) 1 4 5–2 4 5 (1½ 4 5) 13.51 at 48
1½ 4 5. 1½ 4 5. 1½ 4½ 4. 1½ 4½ 4½. 1½ 3½ 5½



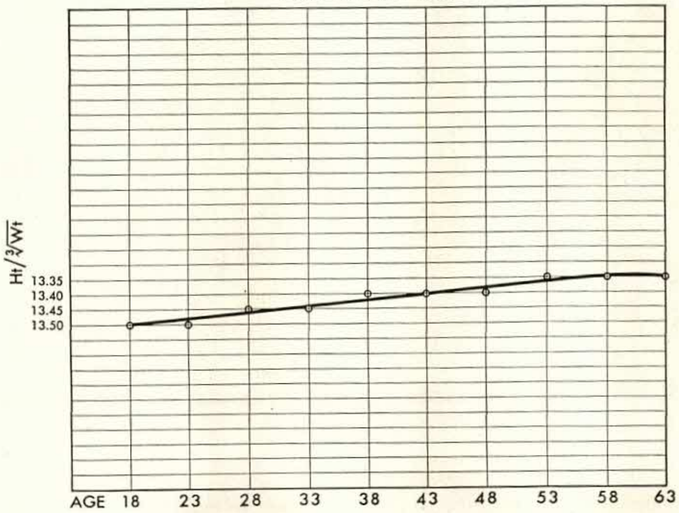
No. 58 *1 4 5* (*16*) 1 4 5–2 5 4 (1½ 4½ 4½) 13.57 at 22
1 4 5. 1½ 5 4. 1½ 4½ 4½. 1½ 4½ 4½. 1½ 4 5

5. BIG FALCONS

Somatotype 1 5 4 *(Ectomorphic mesomorphy at extreme endopenia, 10-level.) The more powerful falcons. Peregrines, duck hawks. Swift, lean pirates of the air. Bold, rapacious and meat hungry. Yet if you shoot a Peregrine falcon you may be astonished at the lightness of his weight and the relative delicacy of his body. Nos. 62–81.*



SOMATOTYPE 154



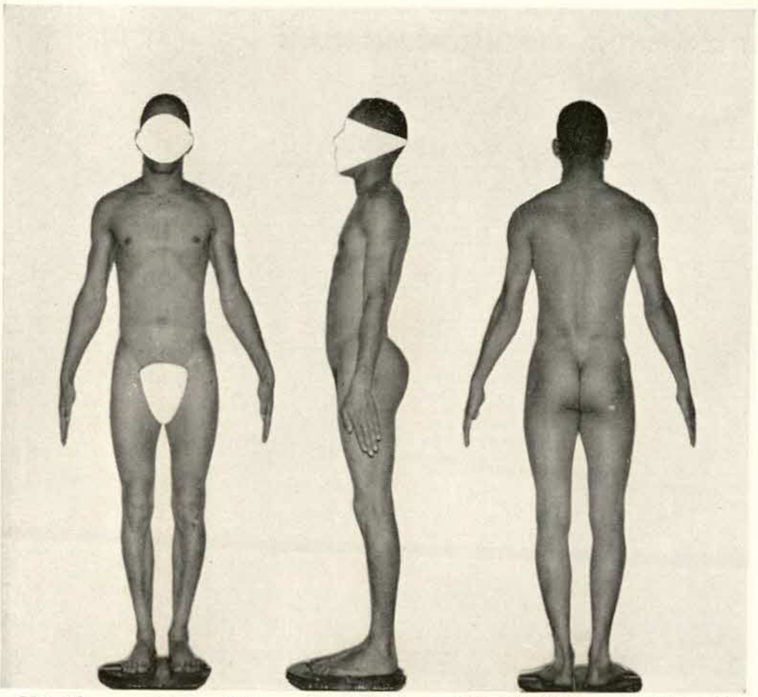
Weight for Age and Height

Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	171	172	173	174	175	176	176	177	177	178
74	163	164	165	166	167	167	168	168	169	171
73	156	158	158	159	160	161	162	162	163	164
72	150	152	152	153	154	155	156	156	156	157
71	144	145	146	147	148	149	150	150	150	151
70	138	140	140	141	142	143	143	143	144	145
69	133	134	135	135	136	137	137	137	138	139
68	127	128	129	129	130	131	132	132	132	133
67	121	122	123	123	124	125	126	126	126	127
66	116	117	117	118	119	119	120	120	120	121
65	111	111	112	112	113	114	114	114	115	116
64	106	106	107	107	108	109	109	109	110	110
63	101	101	101	102	103	104	104	104	105	105
62	96	97	97	98	99	99	99	99	100	100
61	92	92	93	93	94	94	95	95	95	96

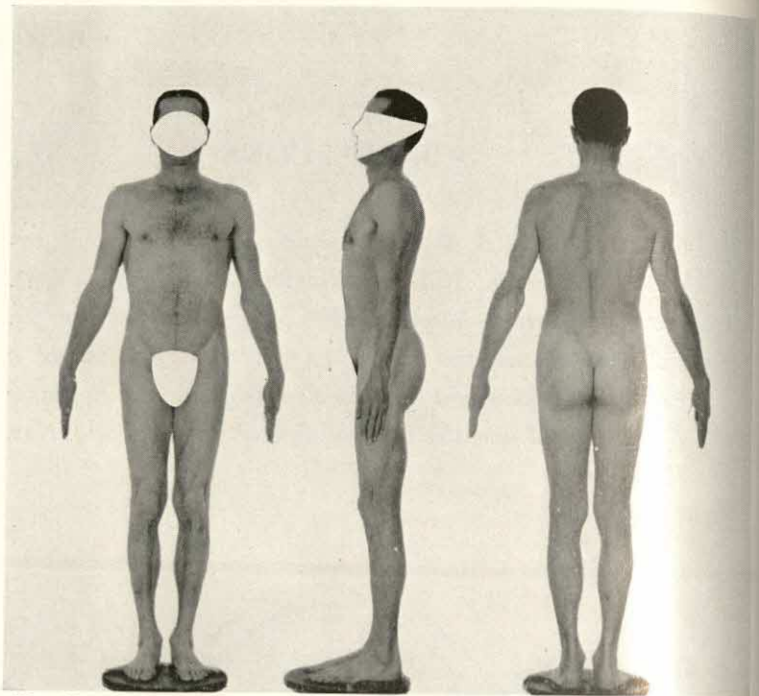
Rarity 3. Incidence 4 per thousand. Of about the same rarity as the 1 4 5, and with the same lean angularity of appearance, but heavier, solider, far more powerful. If there is any doubt as to the differential diagnosis, watch him move. In particular, watch his legs and shoulders. The 1 5 4 is verging on "great cat" mesomorphy. He has lithe power, although in his case (with extreme endopenia) it is inclined to be tight and strained. He has the striking power of the great cats but lacks their relaxation.

The 1 5 4 is nearly a standard deviation above the mean in the second component, which is a statistical way to say that only about one sixth of the male population surpass him in mesomorphy. He carries a musculo-skeletal (somatic) endowment which gives him a superiority in this respect over about 85 per cent of his contemporaries (see Table 6 p. 33). If in addition he has good coördination, with quickness and agility, as men of this somatotype often do, he may possess the makings of a champion at such athletic competition as does not require resilient bounce or the ability to prosper and to wax strong under heavy punishment. The 1 5 4, even if he be a big one, will have a "glass jaw." He cannot stand punishment. But probably many of the great long-distance runners have been close to this somatotype, as was Tilden, greatest tennis player of our time.

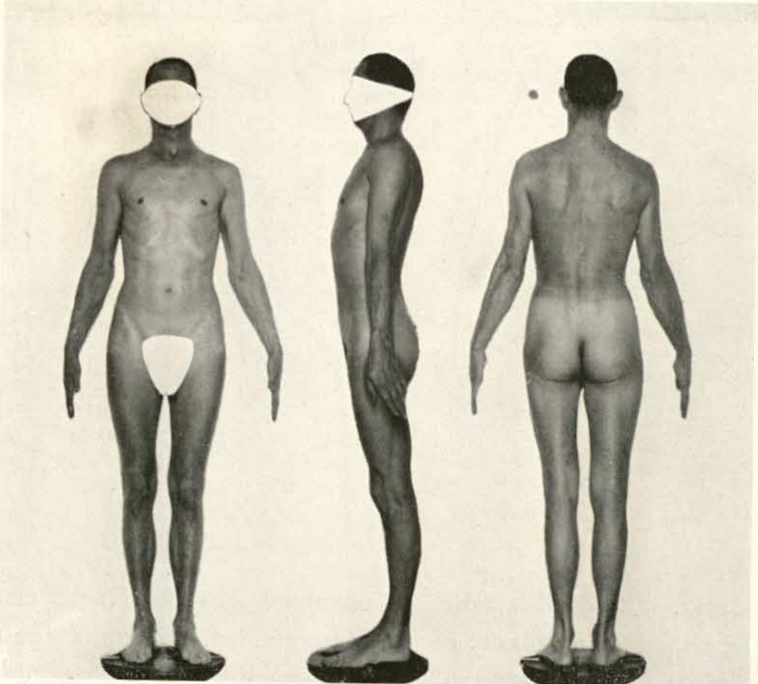
145



No. 59 *1 4 5* (*17*) 1 4 5–2 5 4 (1½ 4½ 4½) 13.55 at 23
2 5 4, 1½ 4½ 4½, 1½ 4 5, 1½ 4½ 4½, 1½ 4 5

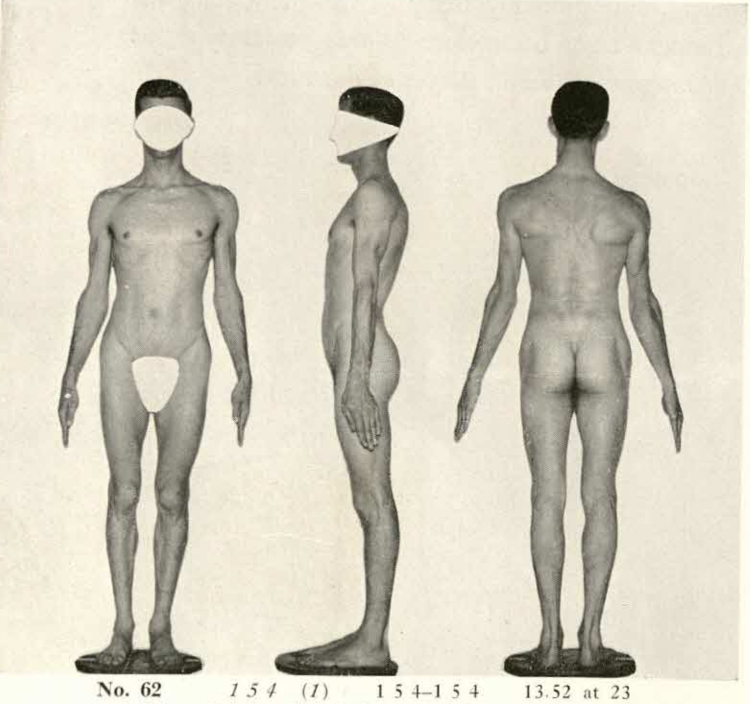


No. 60 *1 4 5* (*18*) 1 4 5–2 5 4 (1½ 4½ 4½) 13.[illegible]7 at 39
1½ 4½ 4½, 1½ 4½ 4, 1½ 4 4½, 1½ 4½ 4½, 1½ [illegible] 4½

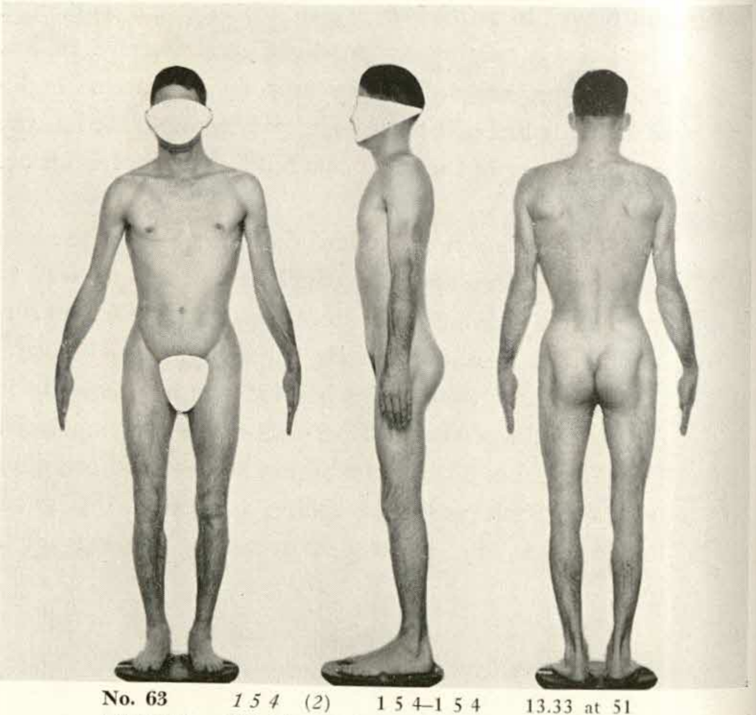


No. 61 *1 4 5* (*19*) 1 4 5–2 5 4 (1½ 4½ 4½) 13.28 at 58
1½ 4 4½, 1½ 4½ 4½, 1½ 5 4, 1½ 4 5, 1½ 4 5

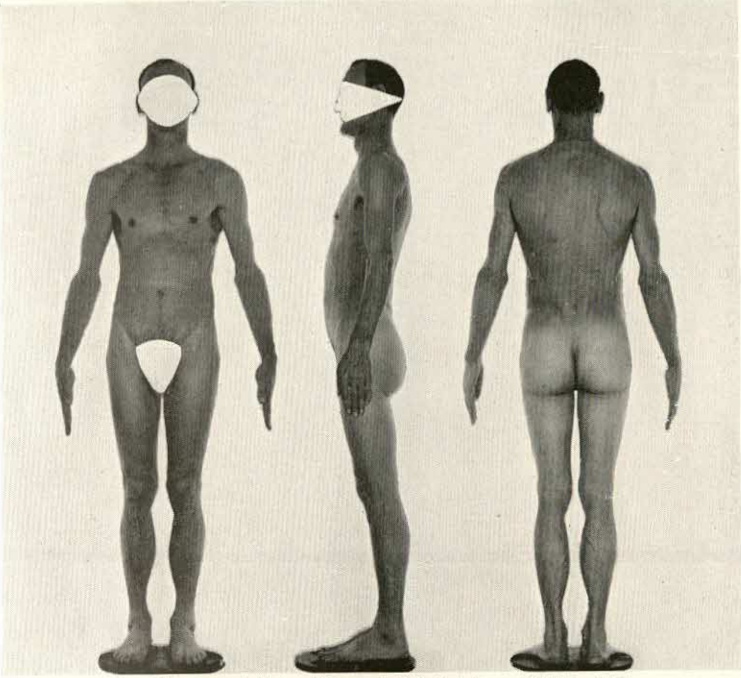
154



No. 62 *1 5 4* (*1*) 1 5 4–1 5 4 13.52 at 23
1 5 4, 1 5 4, 1 4½ 4½, 1 5 4, 1 4½ 4½

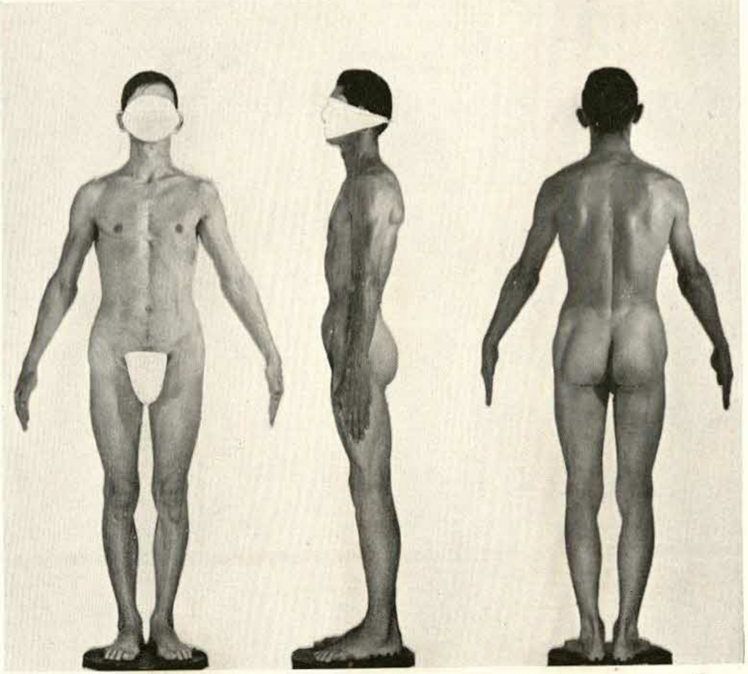


No. 63 *1 5 4* (*2*) 1 5 4–1 5 4 13.33 at 51
1½ 5 3½, 1½ 5 4, 1 4½ 4½, 1 5 4, 1 4½ 4½

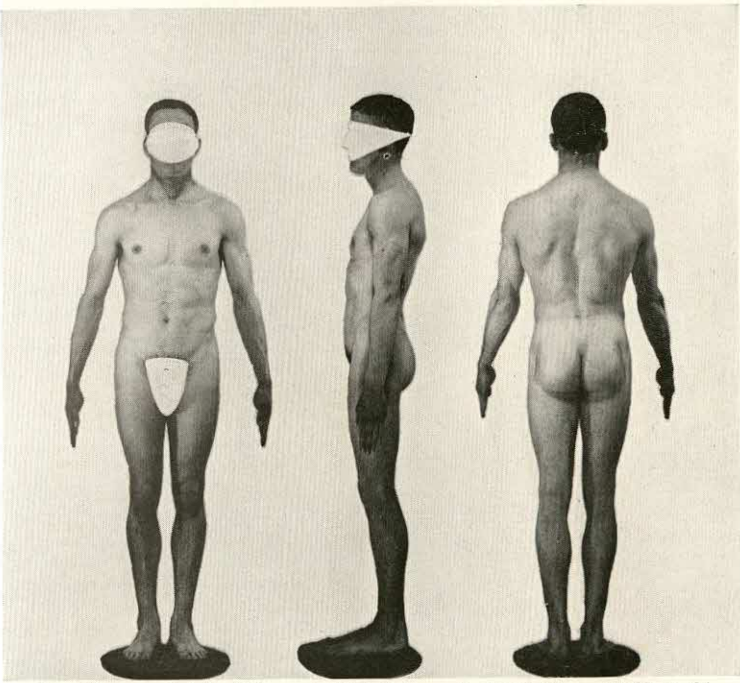


No. 64 *1 5 4* (*3*) 1 5 4–1 5 4 13.33 at 54
1 5 4, 1 5 4, 1 4½ 4½, 1½ 5 4, 1½ 5 3½

154

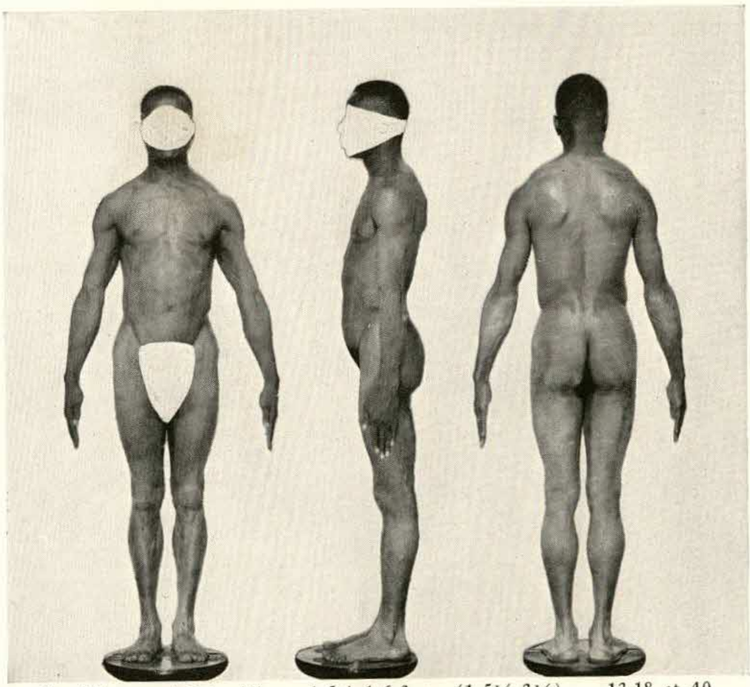


No. 65 *1 5 4* (*4*) 1 5 4–1 6 3 (1 5½ 3½) 13.31 at 19
1 5½ 3½, 1 5½ 3½, 1 5 4, 1 5 4, 1 5½ 3½

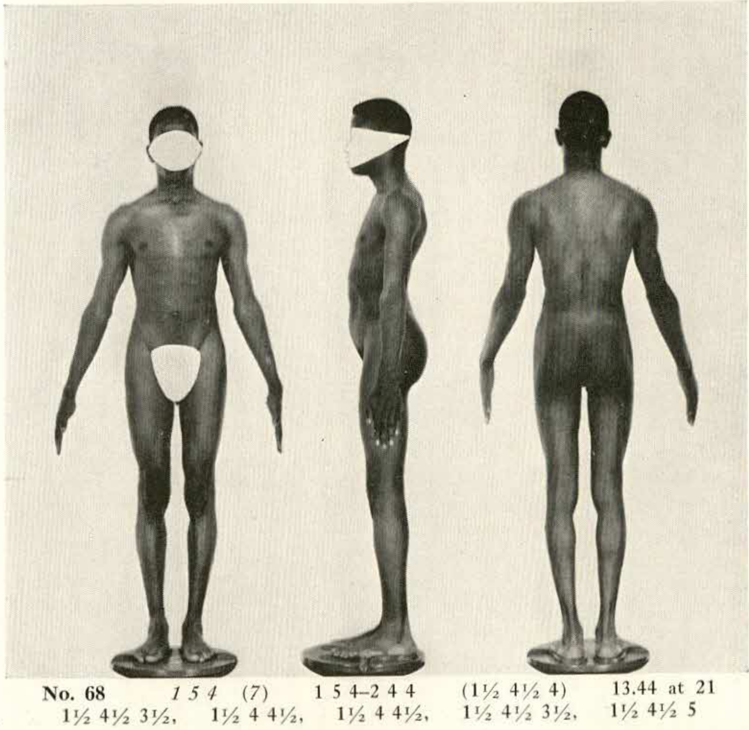


No. 66 *1 5 4* (*5*) 1 5 4–1 6 3 (1 5½ 3½) 13.27 at 24
1½ 5½ 3, 1 5½ 3½, 1 5½ 3½, 1 5½ 3½, 1½ 5 4

154

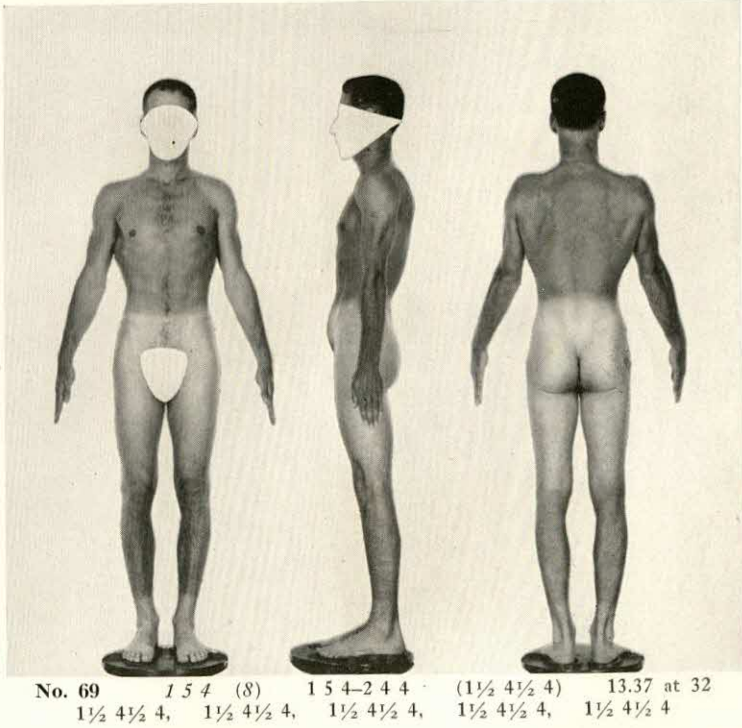


No. 67 *1 5 4* (*6*) 1 5 4–1 6 3 (1 5½ 3½) 13.18 at 40
1 5½ 3½, 1 5½ 3½, 1 5½ 3½, 1 5½ 3½, 1½ 5½ 3½

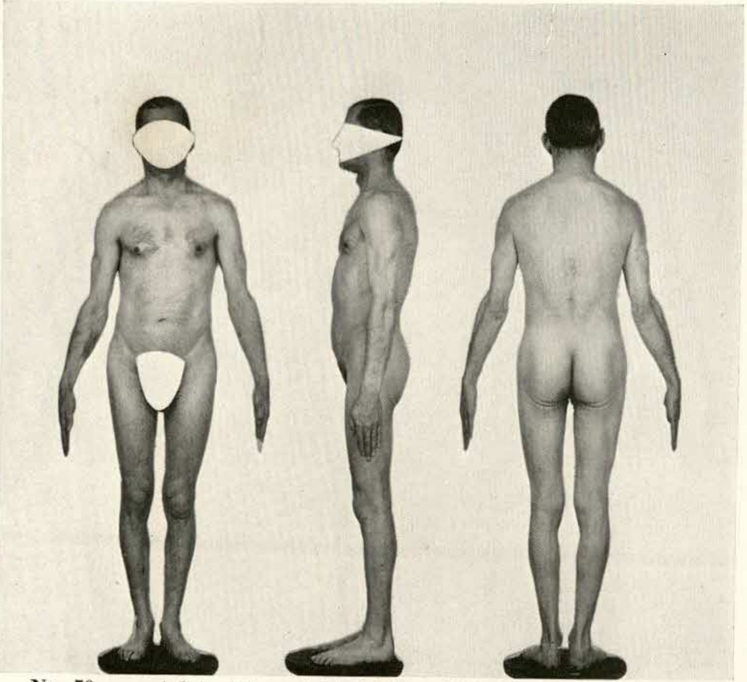


No. 68 *1 5 4* (*7*) 1 5 4–2 4 4 (1½ 4½ 4) 13.44 at 21
1½ 4½ 3½, 1½ 4 4½, 1½ 4 4½, 1½ 4½ 3½, 1½ 4½ 5

154

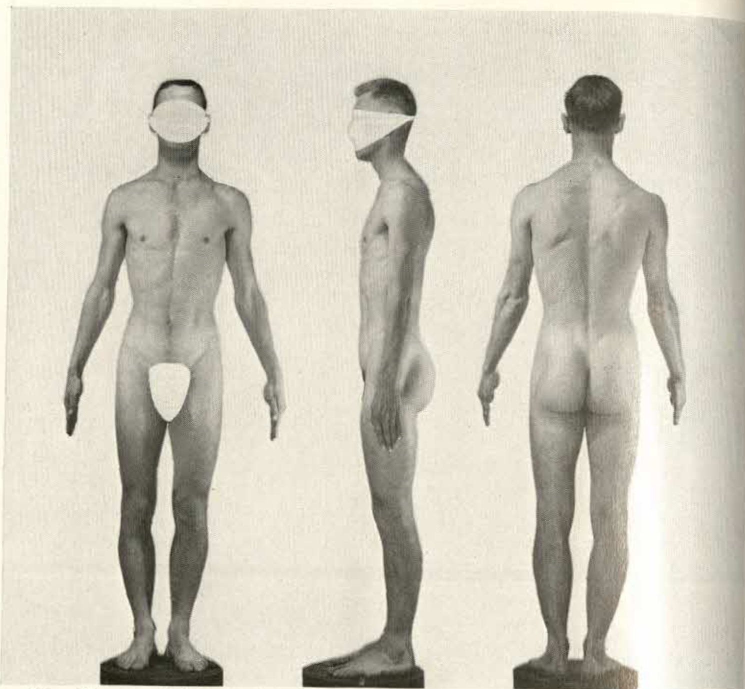


No. 69 *1 5 4* (*8*) 1 5 4–2 4 4 (1½ 4½ 4) 13.37 at 32
1½ 4½ 4, 1½ 4½ 4, 1½ 4½ 4, 1½ 4½ 4, 1½ 4½ 4

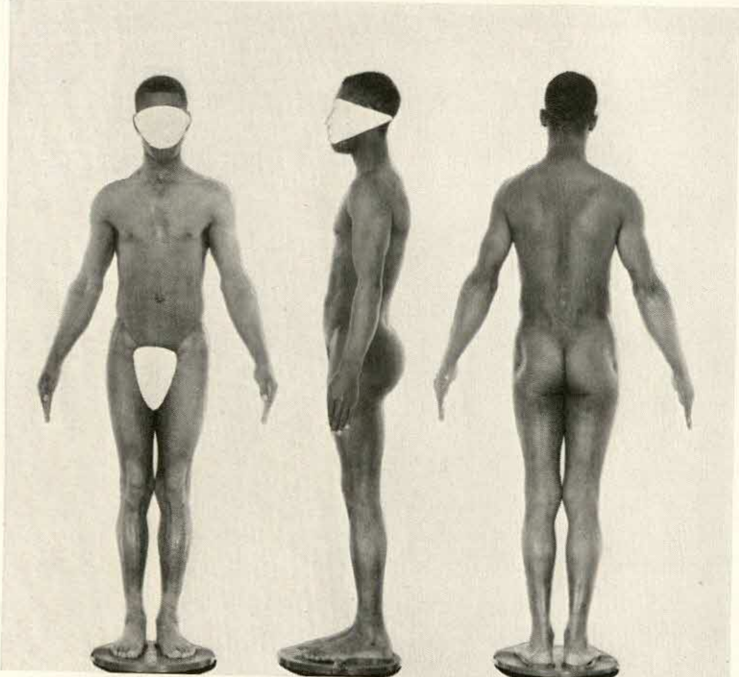


No. 70 *1 5 4* (9) 1 5 4–2 4 4 (1½ 4½ 4) 13.15 at 60
1½ 5 3½, 1½ 4½ 3½, 1½ 4 4½, 1½ 4½ 3½, 1½ 3½ 5

154

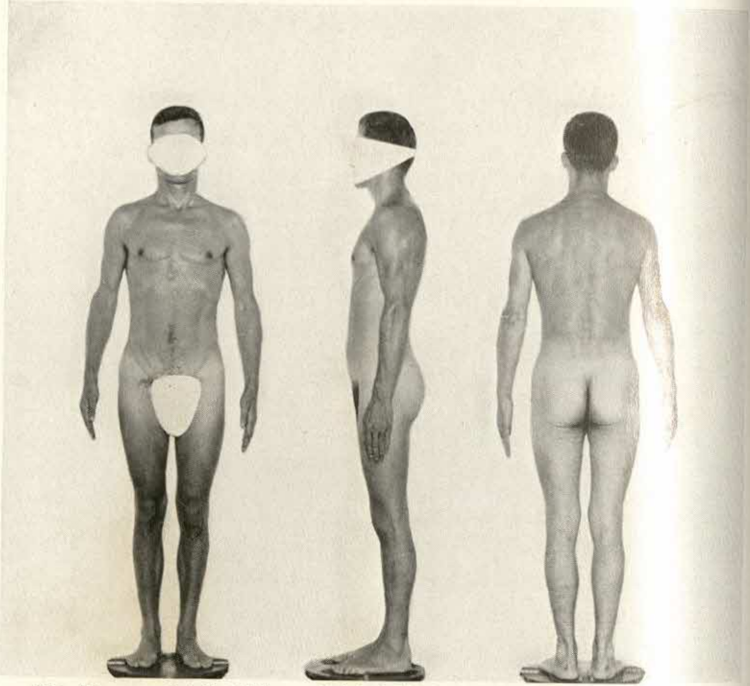


No. 71 *1 5 4* (*10*) 1 5 4–2 5 3 (1½ 5 3½) 13.33 at 21
2 4½ 3½, 1½ 5 4, 1½ 4½ 4½, 1½ 5 4, 2 5 2½

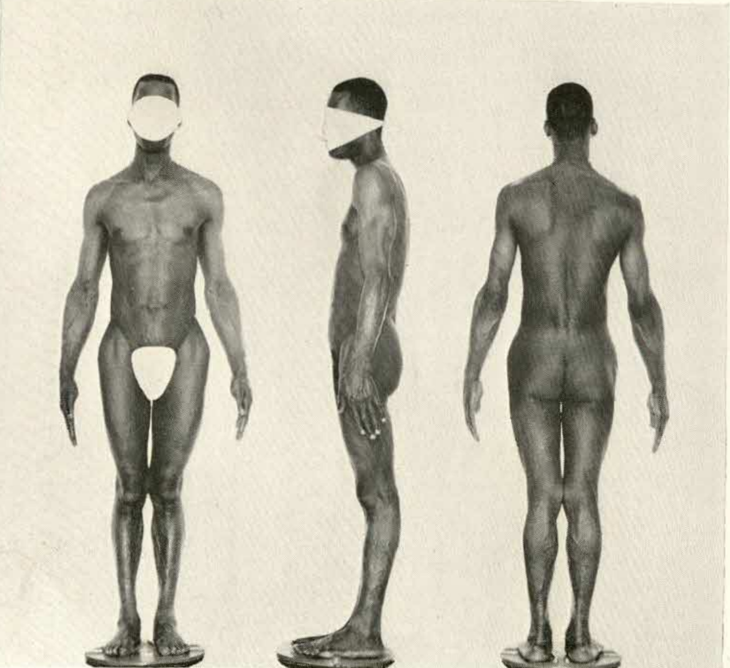


No. 72 *1 5 4* (*11*) 1 5 4–2 5 3 (1½ 5 3½) 13.09 at 37
1½ 5 4, 1½ 5½ 3, 1½ 5½ 3, 1½ 5½ 3, 1½ 5 4

154

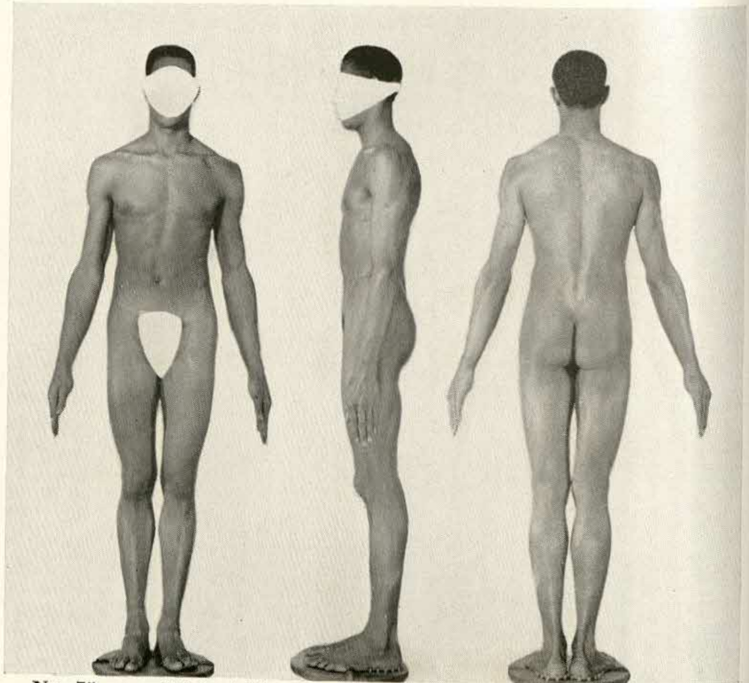


No. 73 *1 5 4* (*12*) 1 5 4–2 5 3 (1½ 5 3½) 13.05 at 43
1½ 5 3½, 1½ 5½ 3, 1½ 5 3½, 1½ 5 4, 1½ 4½ 4

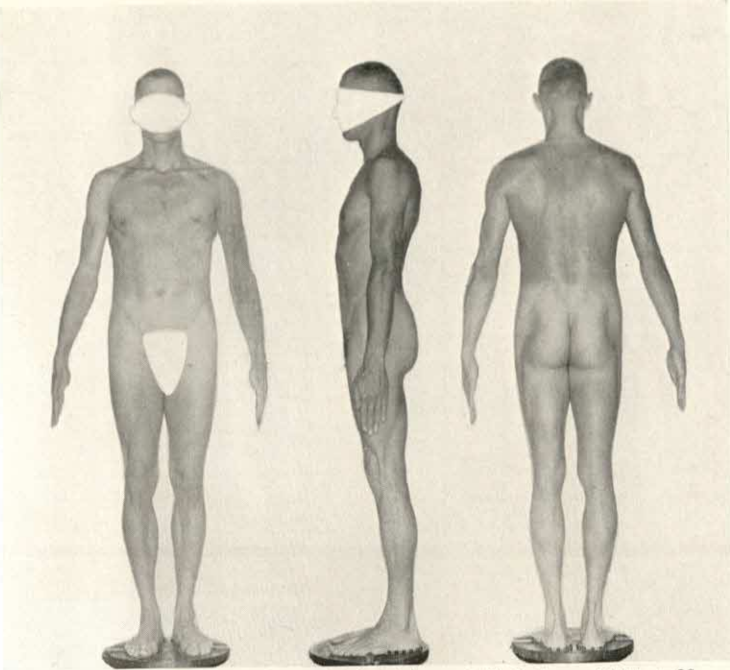


No. 74 *1 5 4* (*13*) 1 5 4–2 5 3 (1½ 5 3½) 13.01 at 49
1 5 4, 1½ 4½ 4, 1½ 5 3½, 1½ 5 3½, 1½ 5 3½

154

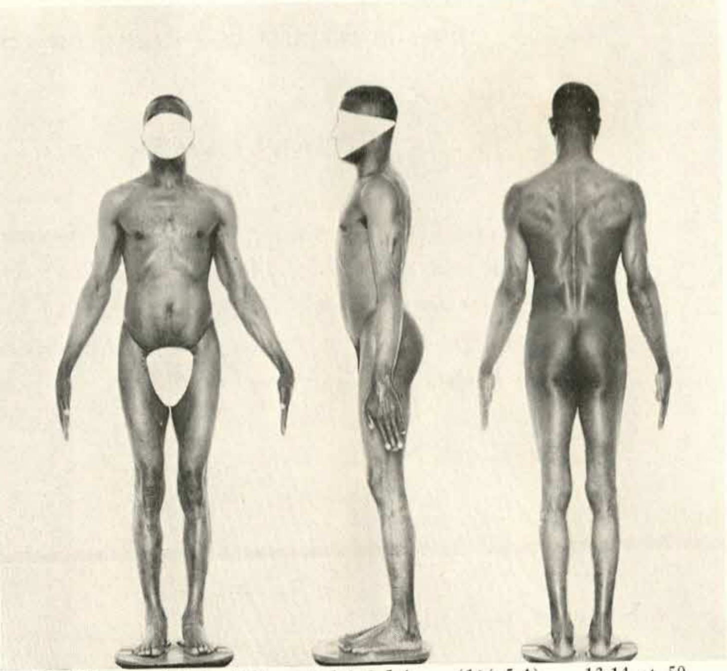


No. 75 *1 5 4* (*14*) 1 5 4–2 5 4 (1½ 5 4) 13.40 at 21
1 5 4, 1½ 5½ 3½, 1½ 4½ 4½, 1½ 4½ 4½, 1½ 4½ 4½

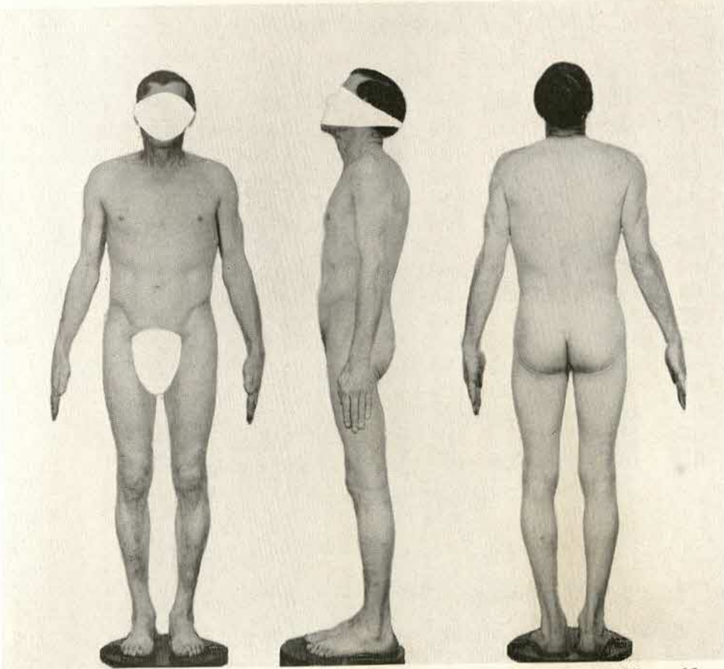


No. 76 *1 5 4* (*15*) 1 5 4–2 5 4 (1½ 5 4) 13.31 at 28
1½ 4½ 4½, 1½ 5 4, 1½ 4½ 4½, 1½ 5 4, 1½ 5 4

154

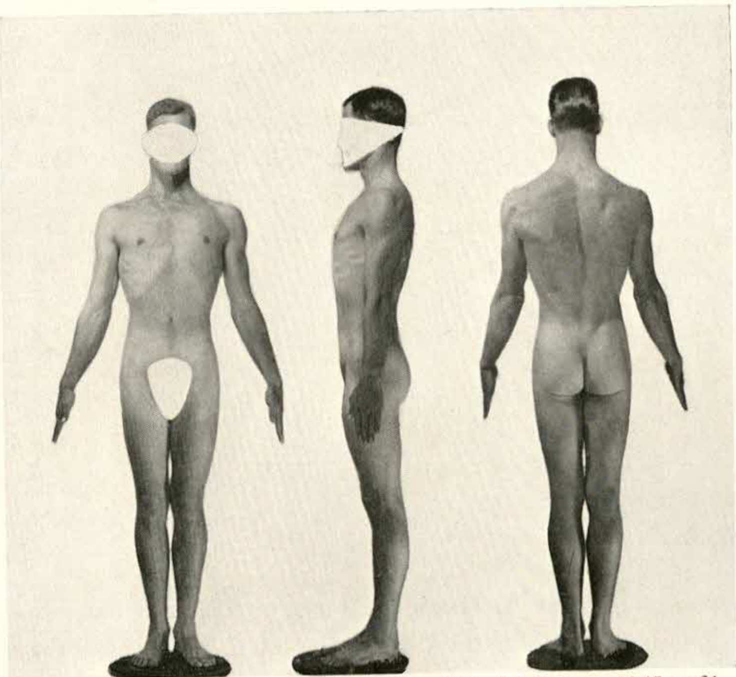


No. 77 *1 5 4* (*16*) 1 5 4–2 5 4 (1½ 5 4) 13.14 at 50
1½ 5 4, 1½ 5 3½, 1½ 5 4, 1 4½ 4½, 1½ 4½ 4½

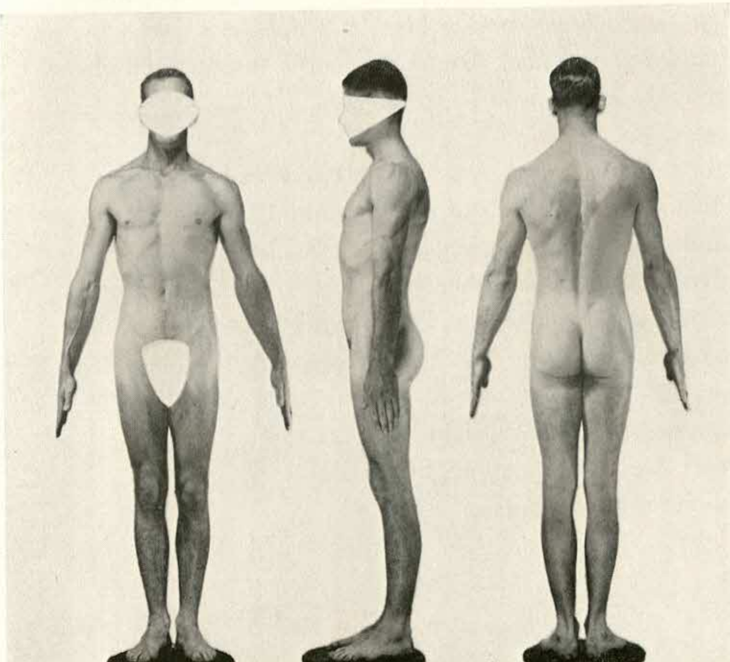


No. 78 *1 5 4* (*17*) 1 5 4–2 5 4 (1½ 5 4) 13.07 at 63
1½ 5½ 3½, 2 5 3½, 1½ 4½ 4½, 1½ 5 3½, 2 4 5

154

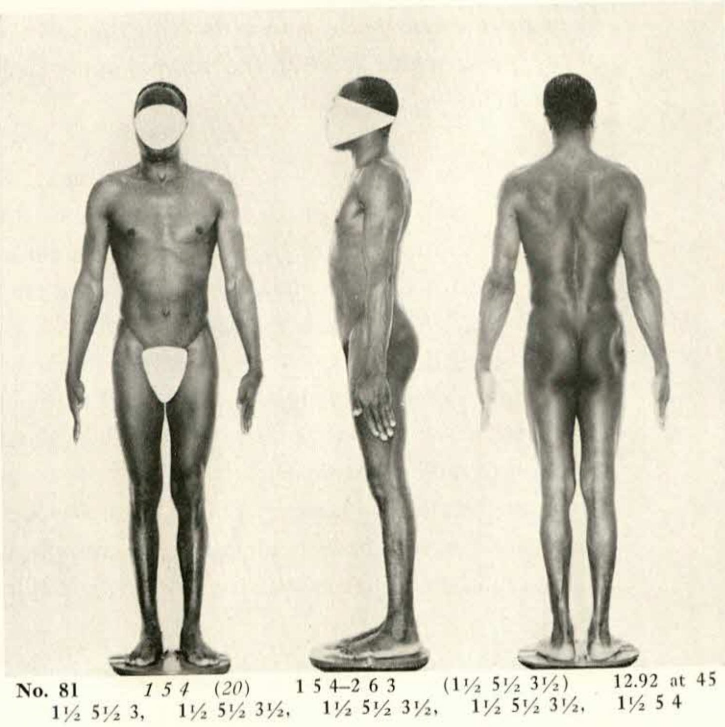


No. 79 *1 5 4* (*18*) 1 5 4–2 6 3 (1½ 5½ 3½) 13.17 at 21
1½ 5½ 3½, 1½ 5½ 3, 1½ 5½ 3, 1½ 5 4, 2½ 5 3



No. 80 *1 5 4* (*19*) 1 5 4–2 6 3 (1½ 5½ 3½) 13.08 at 29
1 5 4, 1½ 5½ 3½, 1 6 3, 1½ 5½ 3½, 2 5 4

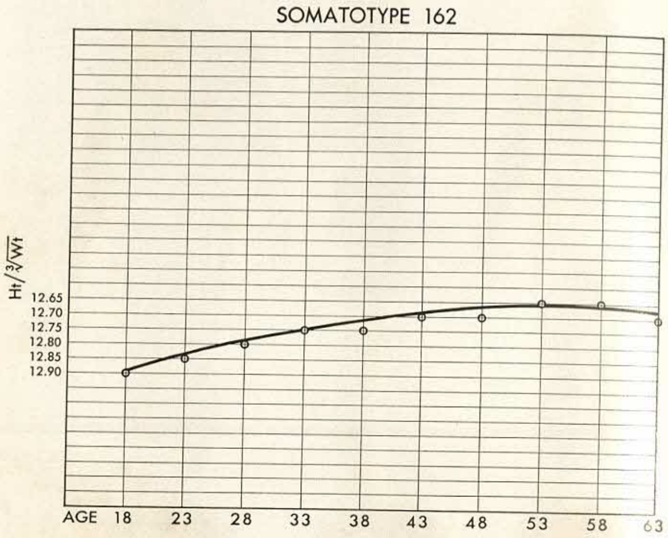
154

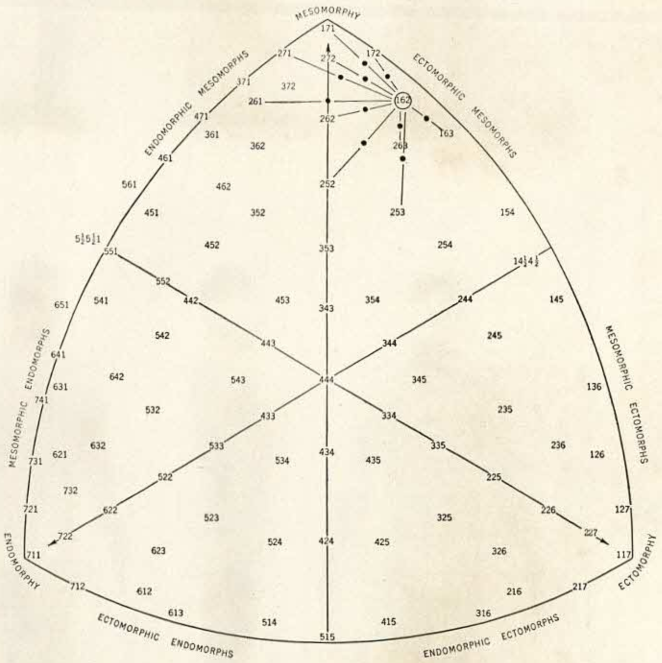


No. 81 *1 5 4* (*20*) 1 5 4–2 6 3 (1½ 5½ 3½) 12.92 at 45
1½ 5½ 3, 1½ 5½ 3½, 1½ 5½ 3½, 1½ 5½ 3½, 1½ 5 4

6. GREAT OWLS

Somatotype 1 6 2 *(Ectomorphic extreme mesomorphy at extreme endopenia, 9-level.) Great horned owl. Solider, less angular than the falcons. A lethal tiger of the air, although light in weight. Possibly the most destructive of winged killers. Especially fond of turkeys. He preys on many animals, kills tomcats and even the powerful Peregrine falcons. Nos. 82–110.*





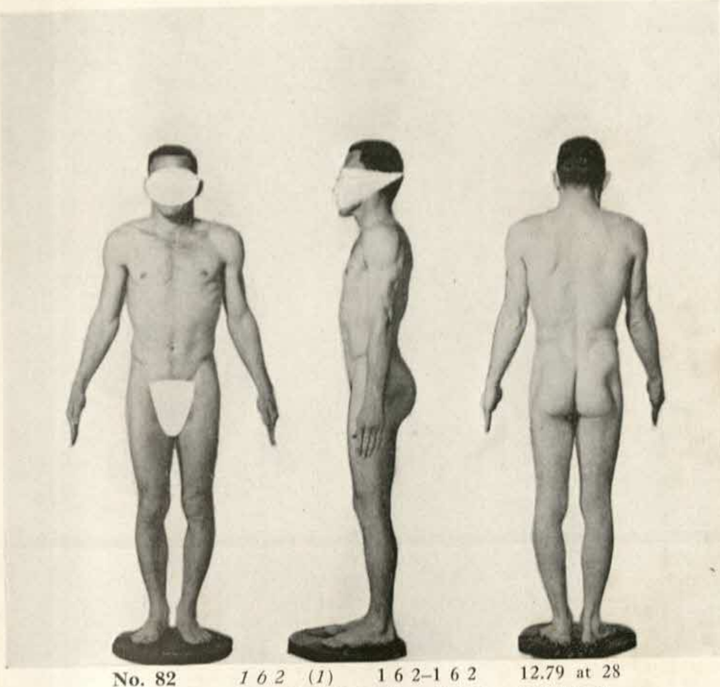
Weight for Age and Height

Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	196	198	201	202	204	205	206	207	208	207
74	188	191	193	194	195	197	198	200	201	200
73	181	182	184	186	187	189	189	191	192	191
72	173	175	177	179	180	182	182	183	185	183
71	166	168	170	172	173	175	175	176	177	175
70	159	162	163	165	166	168	168	168	170	168
69	153	155	157	158	159	161	161	162	163	161
68	146	148	150	151	152	154	154	155	156	154
67	139	142	143	144	146	147	147	148	149	148
66	133	135	137	138	139	140	140	141	142	141
65	127	129	131	132	133	134	134	135	136	135
64	121	123	125	126	127	128	128	128	130	128
63	116	118	119	120	121	122	122	122	124	122
62	110	112	113	114	115	116	116	117	118	116
61	105	107	108	109	110	111	111	111	113	111

Rarity 4. Incidence 1 per thousand. Far more rare than either the 1 5 4 or the 1 6 3. Nearly all of the somatotypes carrying a total component strength of only 9 are great rarities. With the 1 6 2 we enter the territory of extreme mesomorphy and walk with the first cousins of the heroic great, i.e., with the athletes and warriors of the human scene.

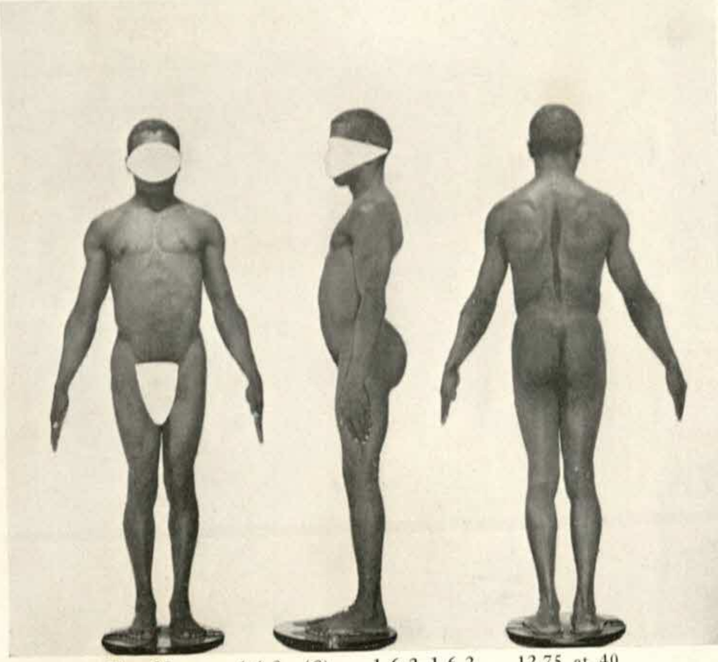
The 1 6 2, as a young man of five feet eight inches, weighs normally about 146 or 148 pounds. By hard training he can throw off 12 or 15 pounds, and can for a time drop back to say 133 pounds, which in boxing circles is "lightweight." At 133, a 1 6 2 of five feet eight, and of good coördination, is likely to represent nearly the human maximum in short run fighting power for the weight. He is "trained down" about as far as is possible without loss of strength, and to begin with he is inclined by nature to be an efficient fighting machine. With the extreme endopenia he will have a tendency to crumple under heavy punishment (glass jaw, too brittle), but this may be offset by the advantage in stature and reach which he will have over a lightweight opponent who might be a 2 6 1. The latter, normally weighing 145-150 at five feet six, and having likewise trained down to 133, will seem short and chunky beside his 1 6 2 opponent (who by comparison may look like an ectomorph to untrained observers).

Probably neither a 1 6 2 nor a 2 6 1 would be likely to win a major boxing championship. Both have nearly fatal handicaps. But as a jockey a little 1 6 2 has great natural advantages, and certainly many of the best of this profession are recruited from the near neighborhood of that somatotype. At five feet two, a young 1 6 2 normally weighs about 110 pounds. He can train down to 100 pounds, and at that weight, with his great strength and agility, he can do much for a good horse.

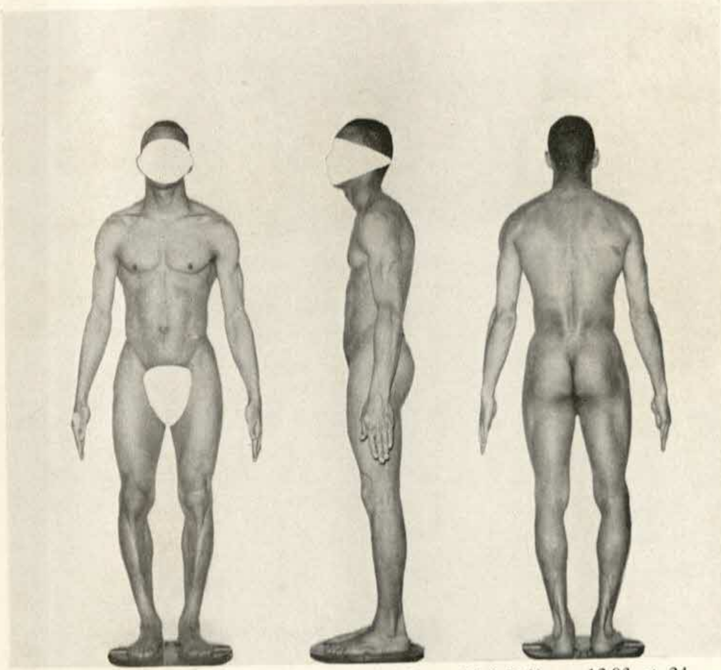


No. 82 *1 6 2* (*1*) 1 6 2–1 6 2 12.79 at 28
1 6 2, 1 6 2, 1½ 5½ 2½, 1 6 2, 1½ 5½ 2

162

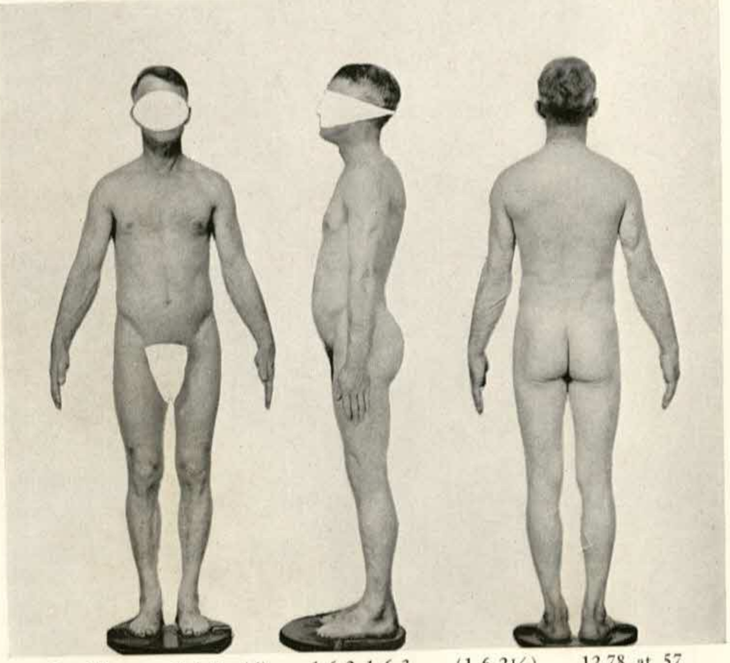


No. 83 *1 6 2* (*2*) 1 6 2–1 6 2 12.75 at 40
1½ 6 1½, 1 6 2, 1 5½ 2½, 1 6 2, 1½ 5½ 3

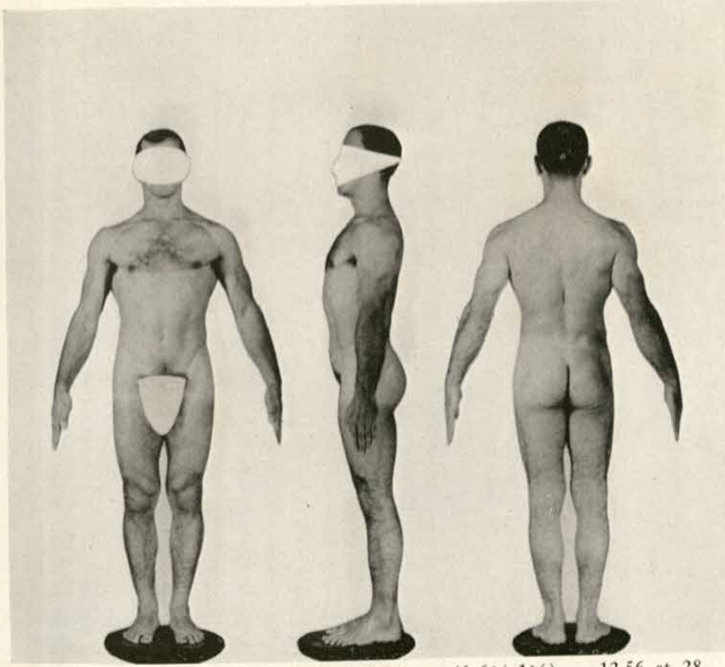


No. 84 *1 6 2* (*3*) 1 6 2–1 6 3 (1 6 2½) 12.93 at 24
1 6 2½, 1 6 2½, 1 5½ 3, 1½ 5½ 2½, 1 6 2½

162

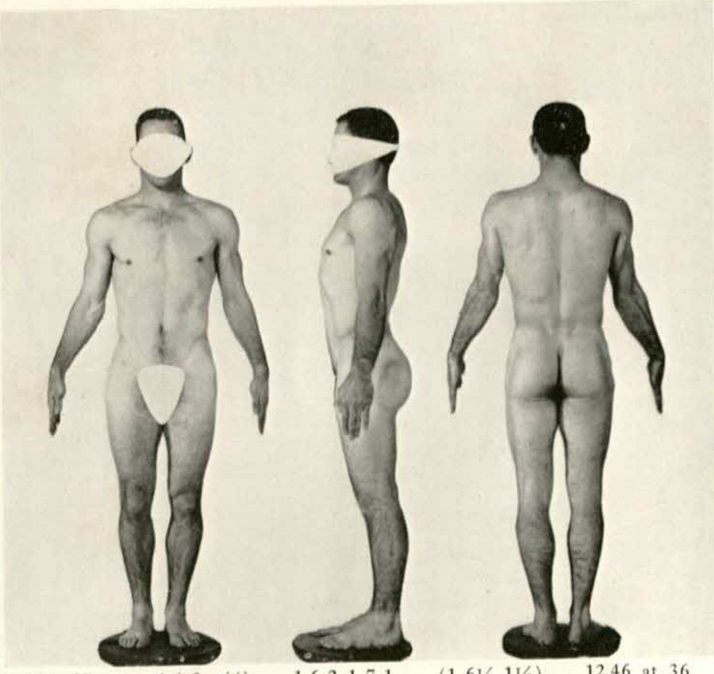


No. 85 *1 6 2* (*4*) 1 6 2–1 6 3 (1 6 2½) 12.78 at 57
1 6 2½, 1 6 2½, 1 6 2, 1½ 6 2½, 1½ 5½ 3

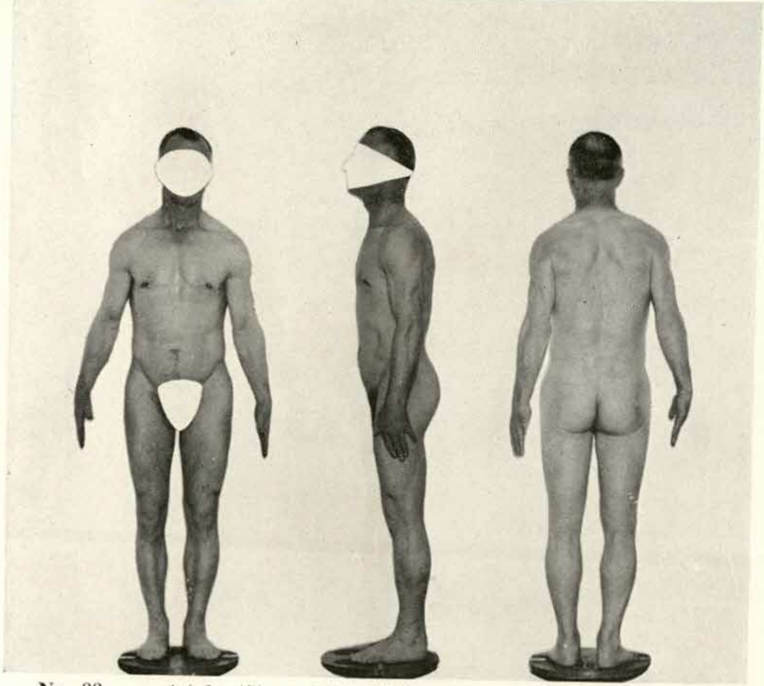


No. 86 *1 6 2* (*5*) 1 6 2–1 7 1 (1 6½ 1½) 12.56 at 28
1½ 6 1½, 1 7 1, 1 7 1½, 1 6½ 1½, 1½ 6 1½

162

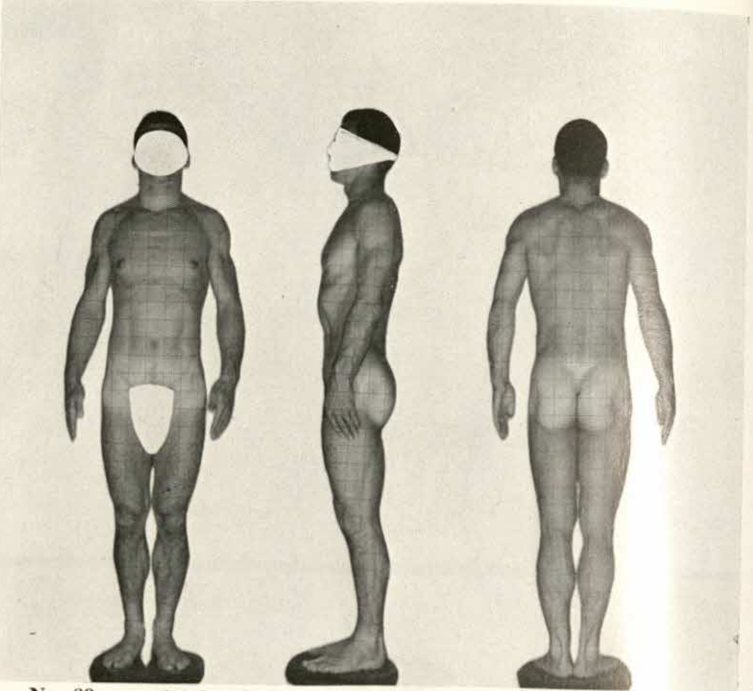


No. 87 *1 6 2* (*6*) 1 6 2–1 7 1 (1 6½ 1½) 12.46 at 36
1 6½ 1½, 1 6½ 1½, 1 6 2, 1 6½ 1½, 1½ 6 2

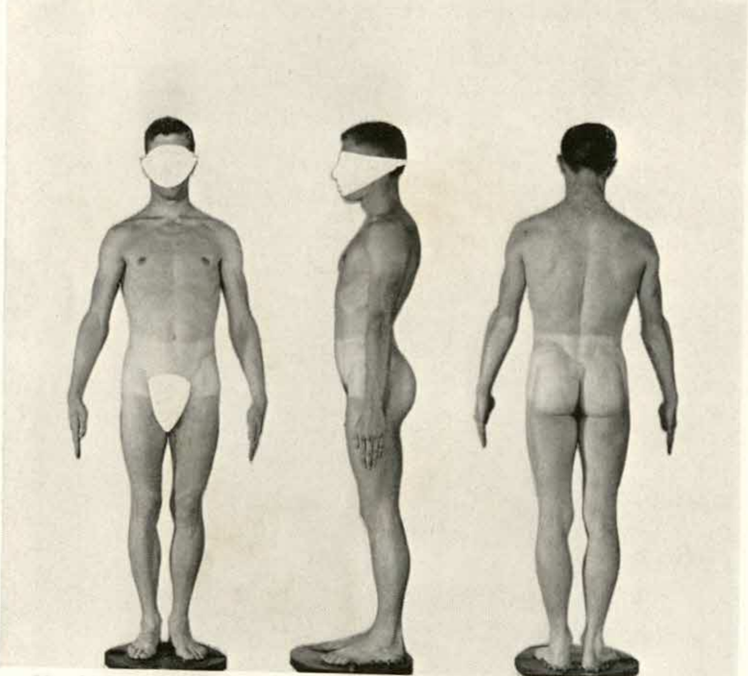


No. 88 *1 6 2* (*7*) 1 6 2–1 7 1 (1 6½ 1½) 12.39 at 54
1 6½ 1½, 1 6½ 1½, 1 6½ 1½, 1 6½ 1½, 1½ 6 1½

162

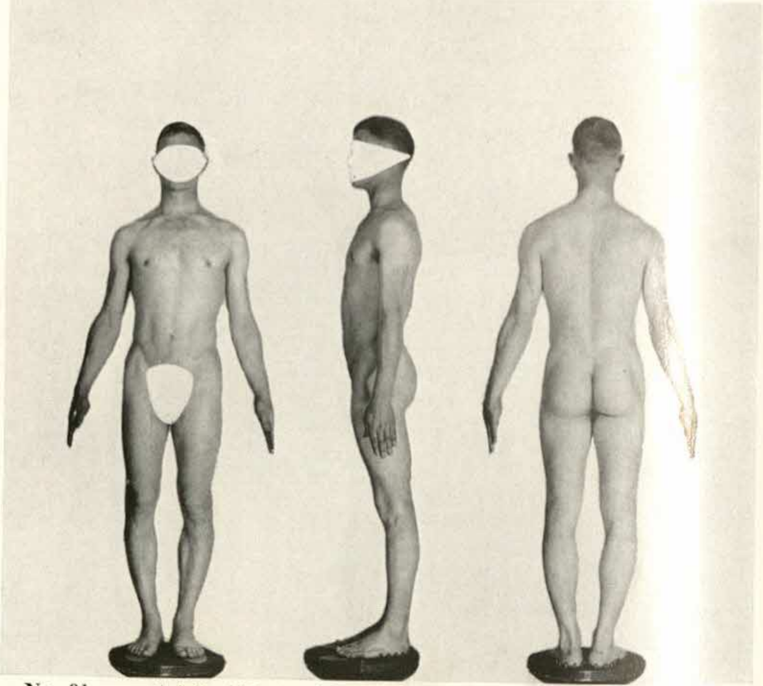


No. 89 *1 6 2* (*8*) 1 6 2–1 7 2 (1 6½ 2) 12.70 at 27
1½ 6½ 1½, 1 6 2, 1 6 2, 1 6½ 2½, 1½ 6½ 2

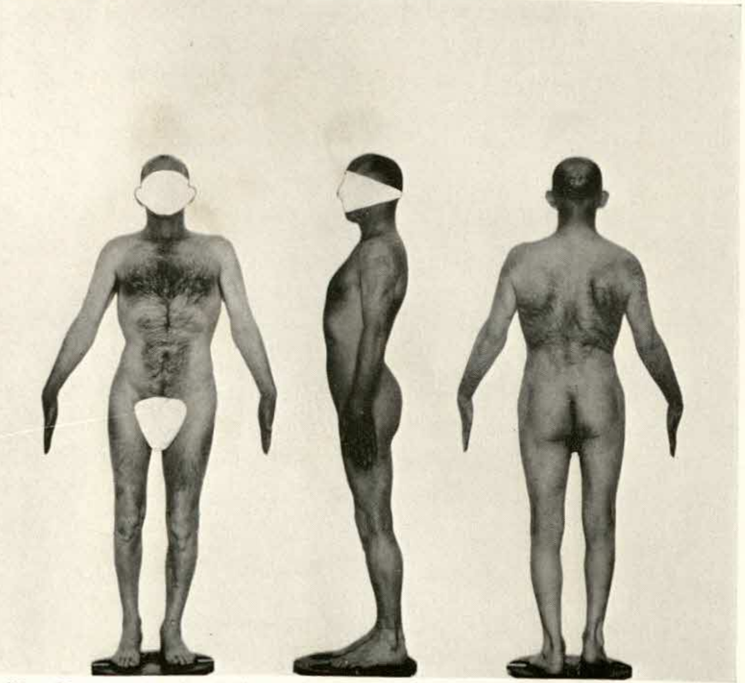


No. 90 *1 6 2* (*9*) 1 6 2–2 5 2 (1½ 5½ 2) 12.85 at 22
1½ 5½ 2, 1½ 6 1½, 2 5 2½, 1½ 5½ 2, 1½ 5½ 2½

162

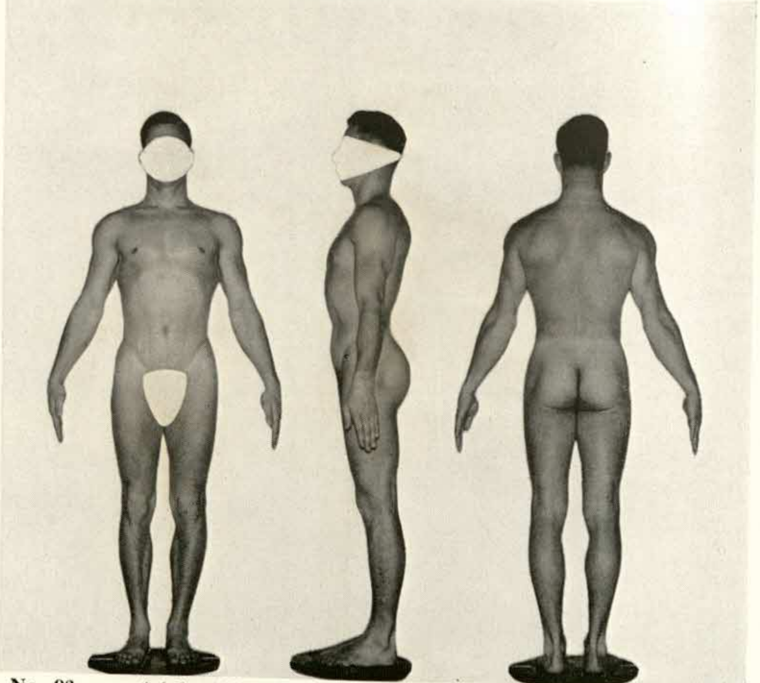


No. 91 *1 6 2* (*10*) 1 6 2–2 5 2 (1½ 5½ 2) 12.78 at 26
2 5 2½, 1½ 5½ 2, 1½ 5½ 2, 1½ 5½ 2, 1½ 5½ 2

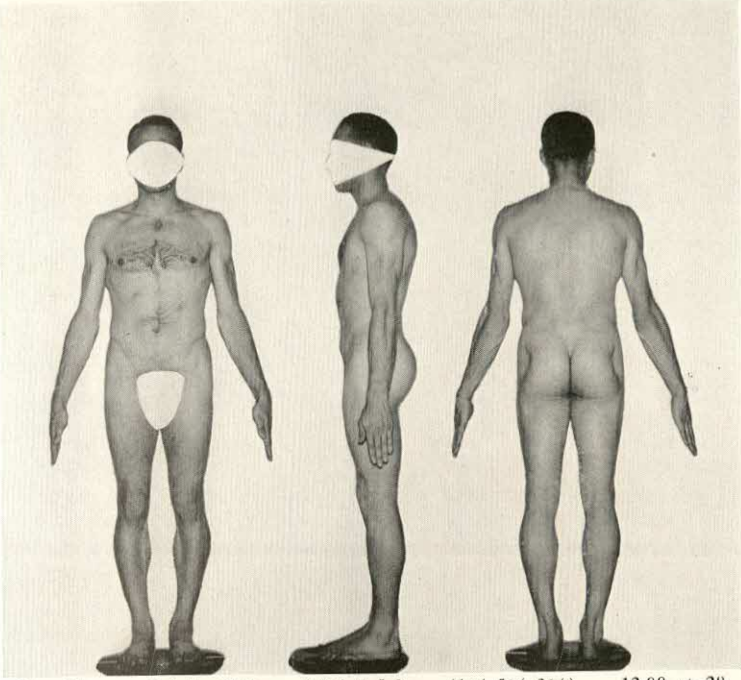


No. 92 *1 6 2* (*11*) 1 6 2–2 5 2 (1½ 5½ 2) 12.59 at 66
1½ 5½ 2, 1½ 5½ 2, 2 5 2, 1½ 5½ 2, 2 5 2

162

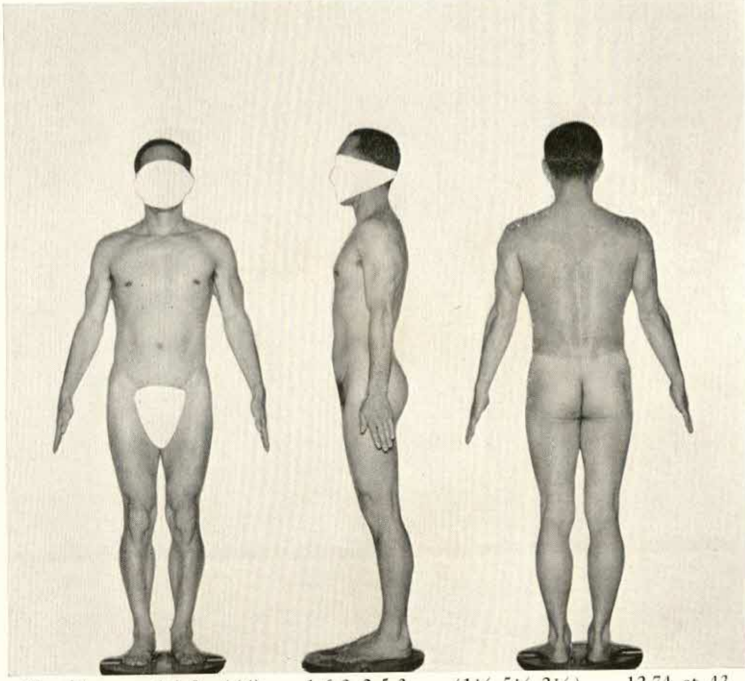


No. 93 *1 6 2* (*12*) 1 6 2–2 5 3 (1½ 5½ 2½) 12 98 at 23
1½ 5½ 2½, 1½ 5½ 2, 1½ 5½ 2½, 1½ 5½ 2½, 1½ 5½ 2½

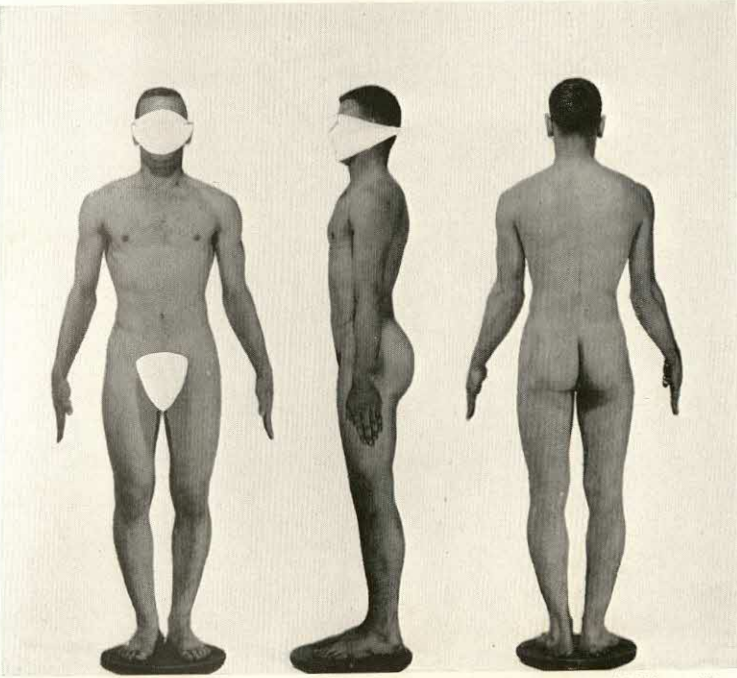


No. 94 *1 6 2* (*13*) 1 6 2–2 5 3 (1½ 5½ 2½) 12.88 at 28
1½ 5½ 2½, 1½ 5½ 2½, 1½ 5½ 2½, 1½ 5½ 2, 1½ 5½ 2½

162

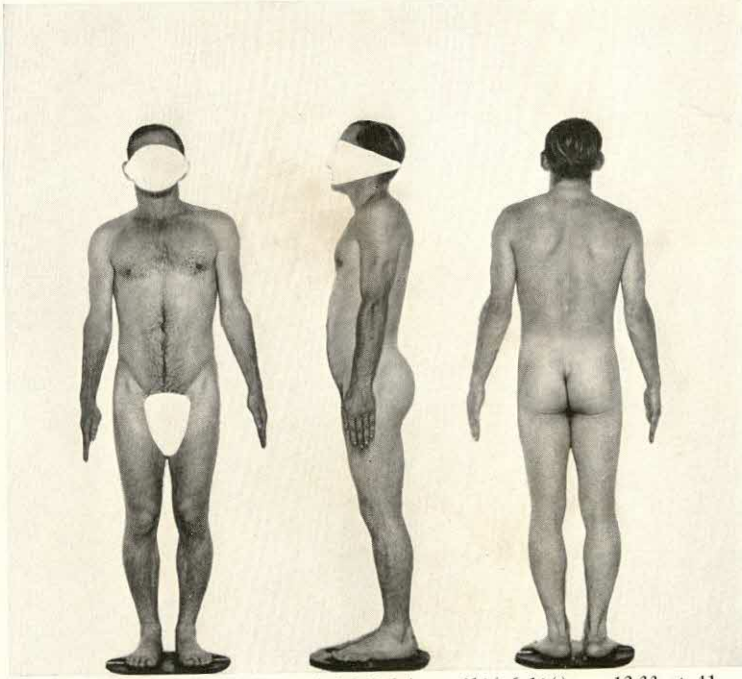


No. 95 *1 6 2* (*14*) 1 6 2–2 5 3 (1½ 5½ 2½) 12.74 at 43
1½ 5½ 2, 1½ 5½ 2½, 1½ 5 3, 1½ 5½ 2½, 1½ 5½ 2

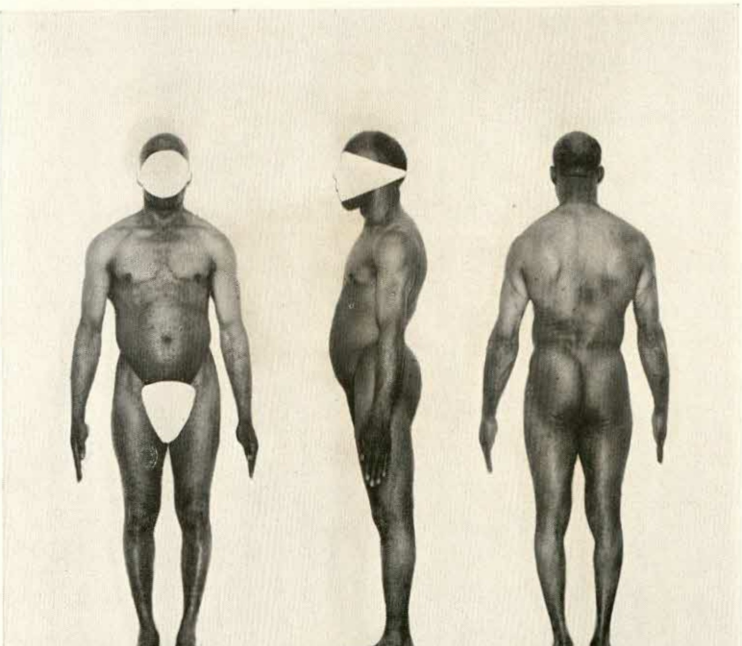


No. 96 *1 6 2* (*15*) 1 6 2–2 6 1 (1½ 6 1½) 12.76 at 19
1½ 6 1½, 2 6 1, 1½ 5½ 2, 1½ 6 2, 2 6 2

162

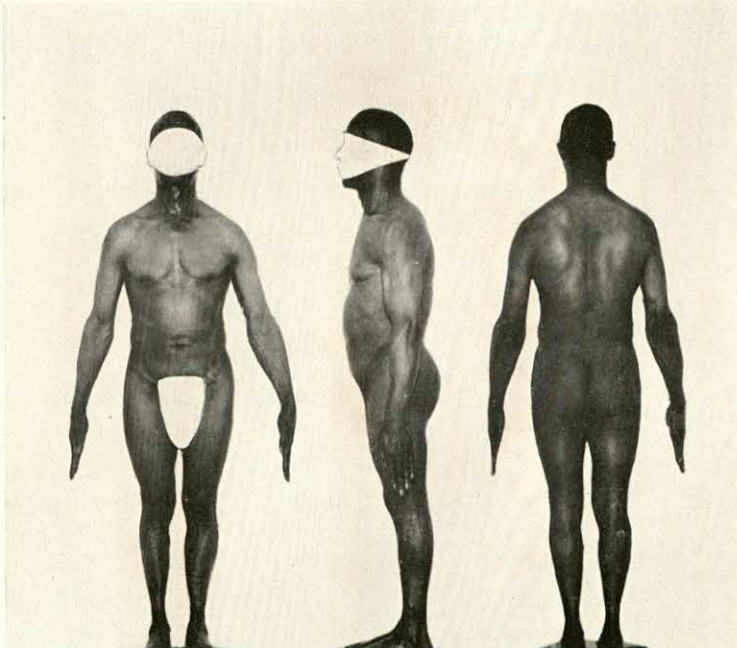


No. 97 *1 6 2* (*16*) 1 6 2–2 6 1 (1½ 6 1½) 12.33 at 41
1½ 6 1½, 1½ 6 1½, 1½ 5½ 2, 1½ 6 1½, 1½ 6 1½

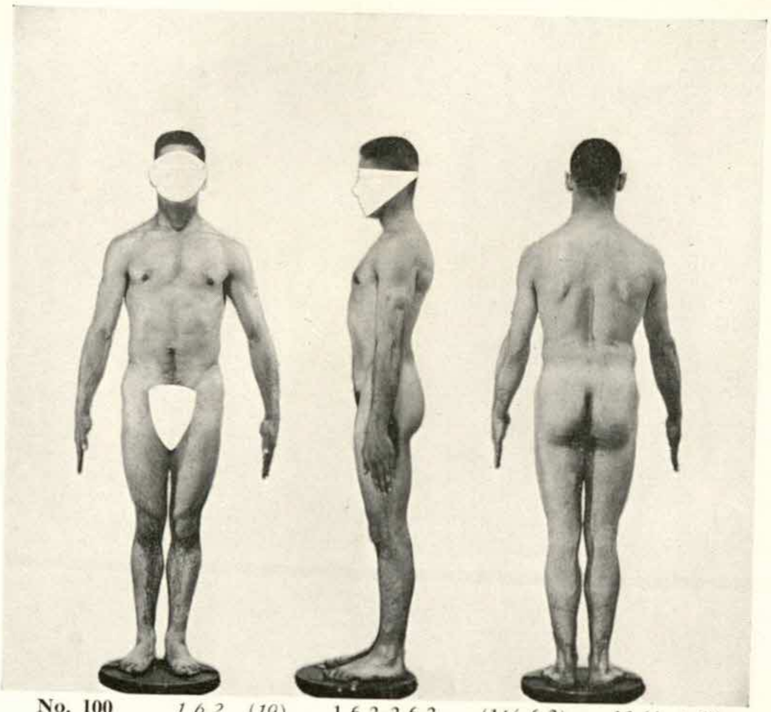


No. 98 *1 6 2* (*17*) 1 6 2–2 6 1 (1½ 6 1½) 12.26 at 55
1½ 6½ 1, 1½ 6 1½, 1½ 5½ 2½, 1½ 6½ 1, 2 5 2½

162

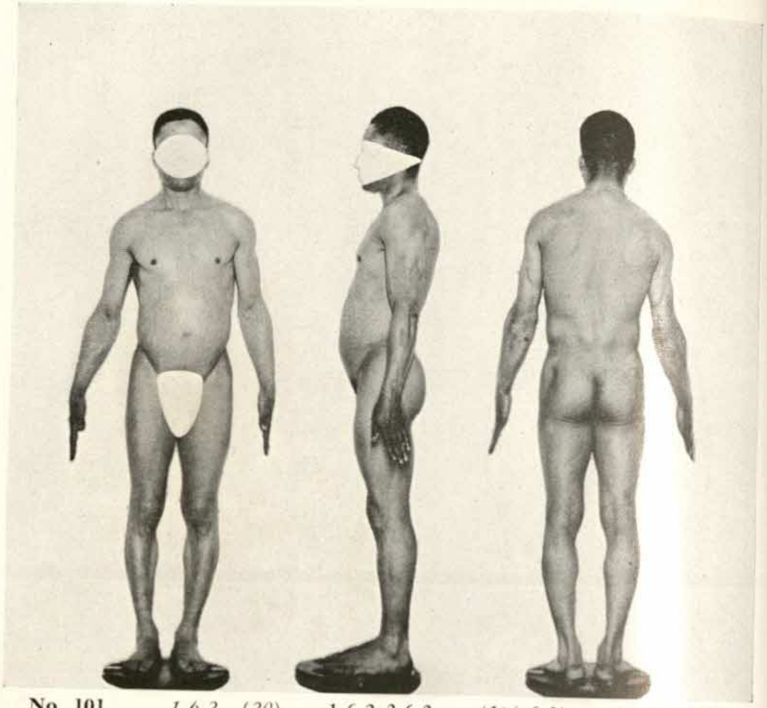


No. 99 *1 6 2* (*18*) 1 6 2–2 6 1 (1½ 6 1½) 12.29 at 65
1½ 6½ 1½, 1½ 6½ 1, 1½ 6 2, 1½ 6½ 1½, 1½ 5½ 2½

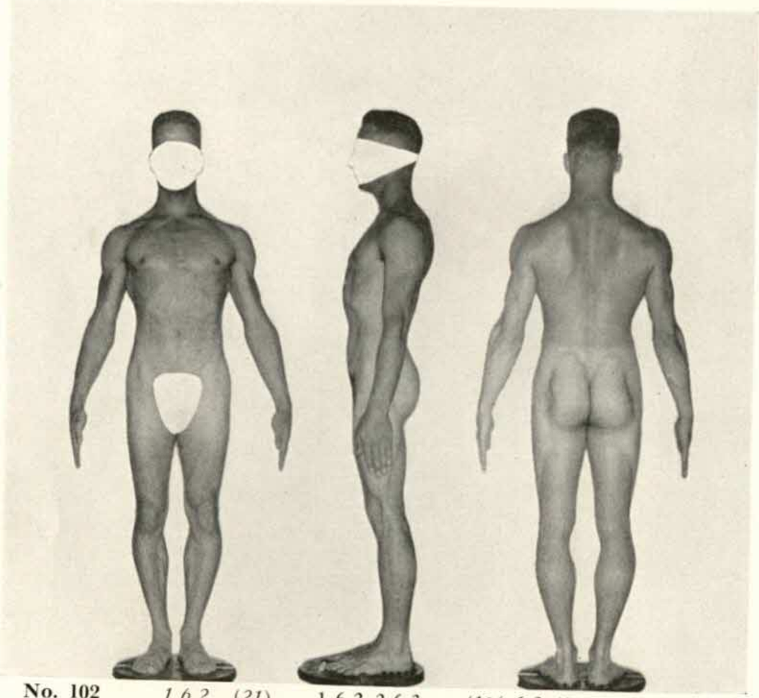


No. 100 *1 6 2* (*19*) 1 6 2–2 6 2 (1½ 6 2) 12.64 at 26
1½ 6½ 2, 1½ 6 1½, 1½ 5½ 2½, 1½ 6 2, 2 6 2

162

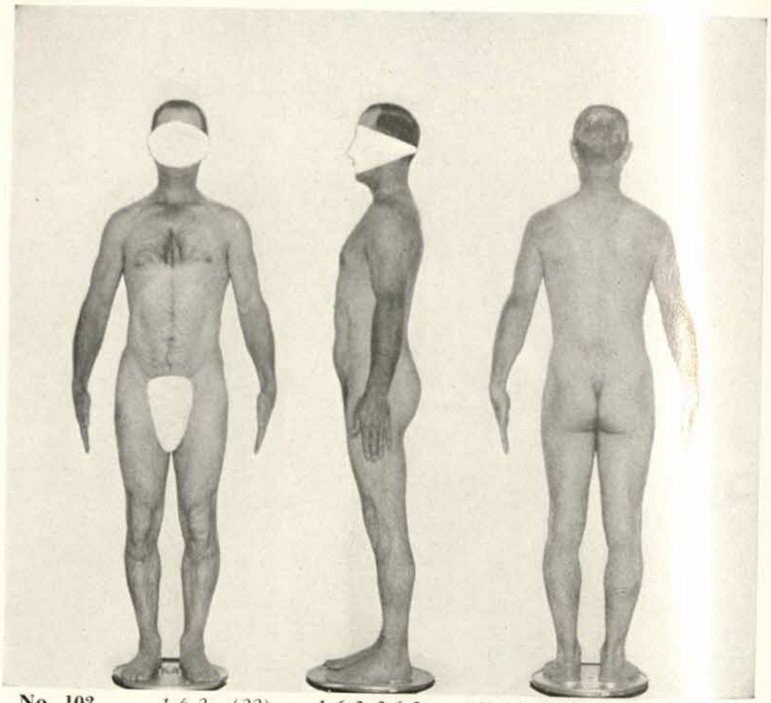


No. 101 *1 6 2* (*20*) 1 6 2–2 6 2 (1½ 6 2) 12.41 at 49
1½ 6 1½, 1½ 6 2, 1½ 6 2, 1½ 6 2, 1½ 6 2½

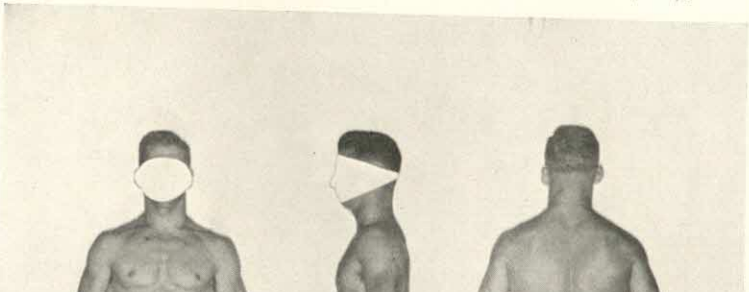


No. 102 *1 6 2* (*21*) 1 6 2–2 6 3 (1½ 6 2½) 12.83 at 21
1½ 6 3, 1½ 6 2½, 1½ 6 2½, 1½ 5½ 2½, 1½ 5½ 2½

162

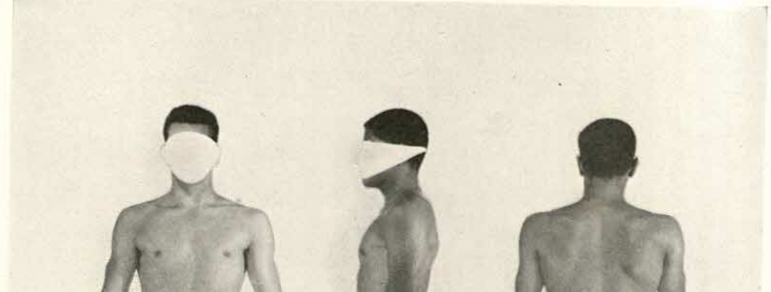


No. 103 *1 6 2* (*22*) 1 6 2–2 6 3 (1½ 6 2½) 12.57 at 51
1½ 5½ 3, 1½ 6 2½, 1½ 6 2½, 1½ 6 2½, 1½ 6 2

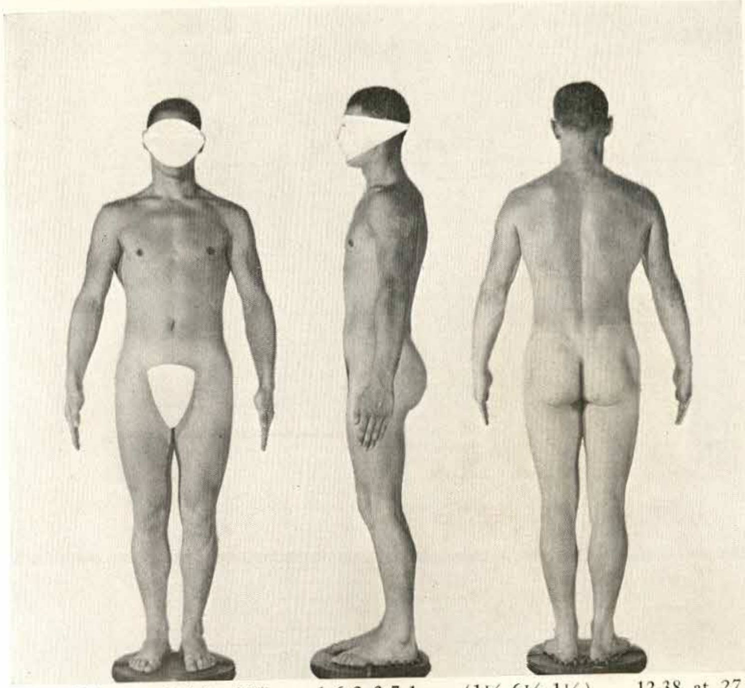


No. 104 *1 6 2* (*23*) 1 6 2–2 7 1 (1½ 6½ 1½) 12.60 at 19
2 6½ 1, 1½ 7 1½, 1½ 6 2, 1½ 6 2, 1½ 6½ 2

162

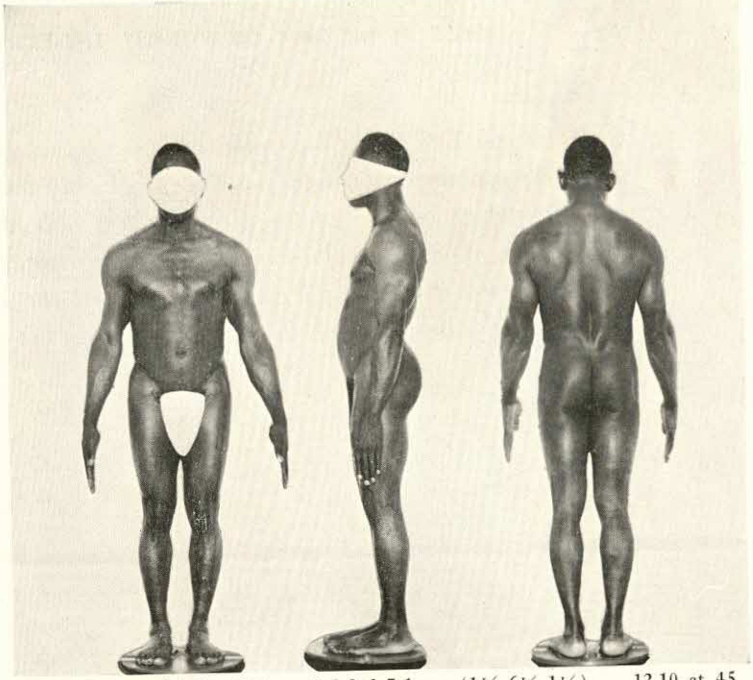


No. 105 *1 6 2* (*24*) 1 6 2–2 7 1 (1½ 6½ 1½) 12.58 at 19
1½ 6½ 1½, 1½ 6½ 1½, 1½ 6½ 1½, 1½ 6 2, 1½ 6½ 1½

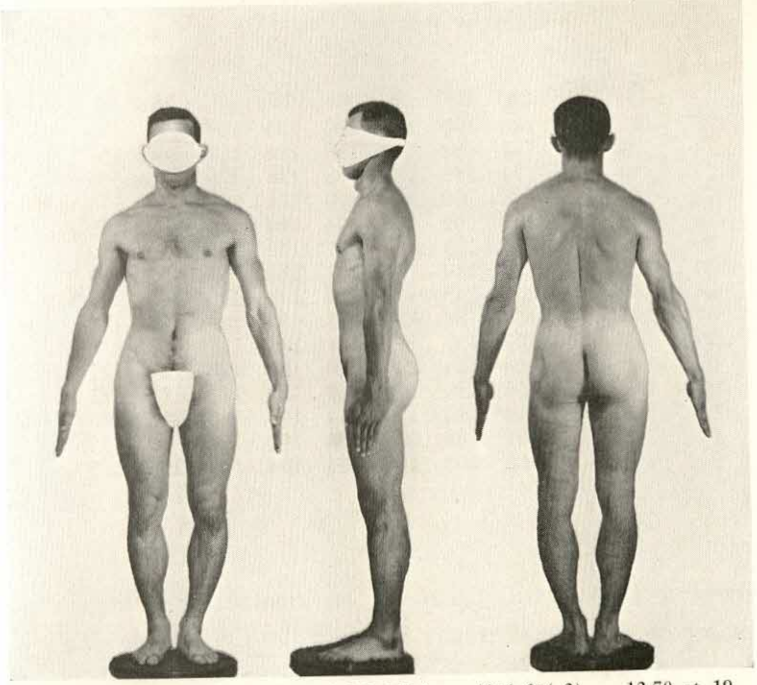


No. 106 *1 6 2* (*25*) 1 6 2–2 7 1 (1½ 6½ 1½) 12.38 at 27
1½ 6½ 1½, 1½ 6½ 1½, 1½ 6½ 1½, 1½ 6½ 1½, 2 6½ 2

162

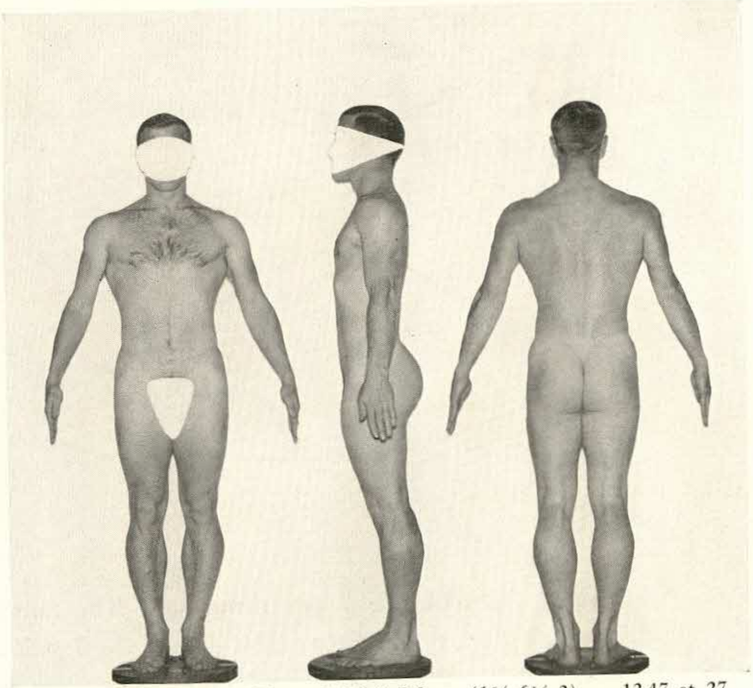


No. 107 *1 6 2* (*26*) 1 6 2–2 7 1 (1½ 6½ 1½) 12.10 at 45
1½ 6½ 1½, 1½ 7 1½, 1½ 7 2, 1½ 6½ 1, 1½ 6½ 2

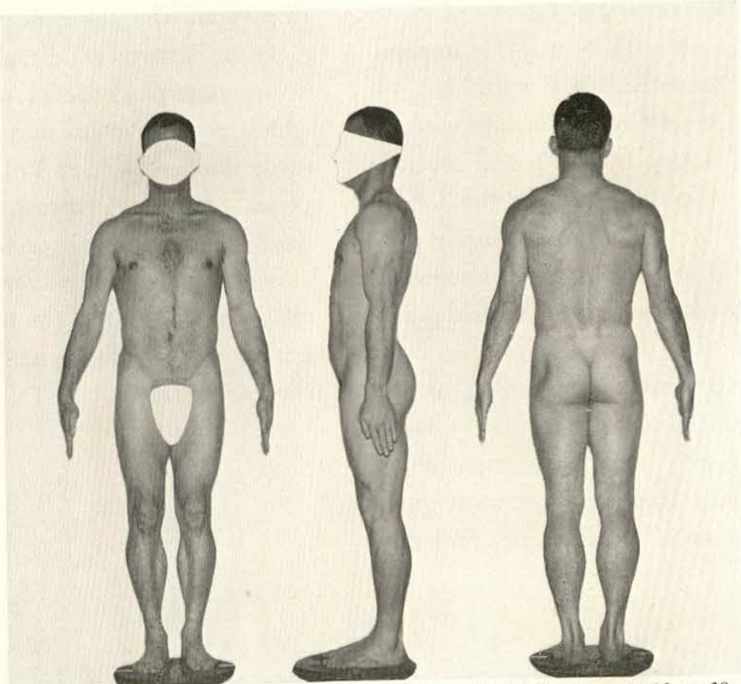


No. 108 *1 6 2* (*27*) 1 6 2–2 7 2 (1½ 6½ 2) 12.70 at 19
1½ 6½ 2, 1½ 6½ 2, 1½ 5½ 2½, 1½ 6½ 2, 1½ 6½ 2

162

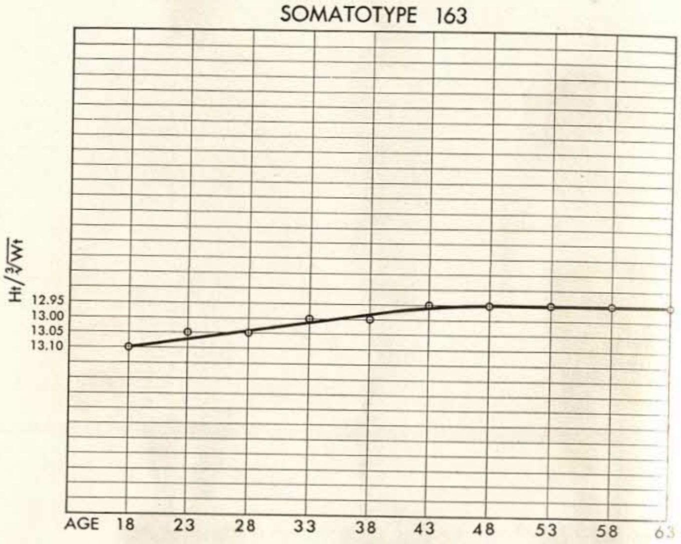


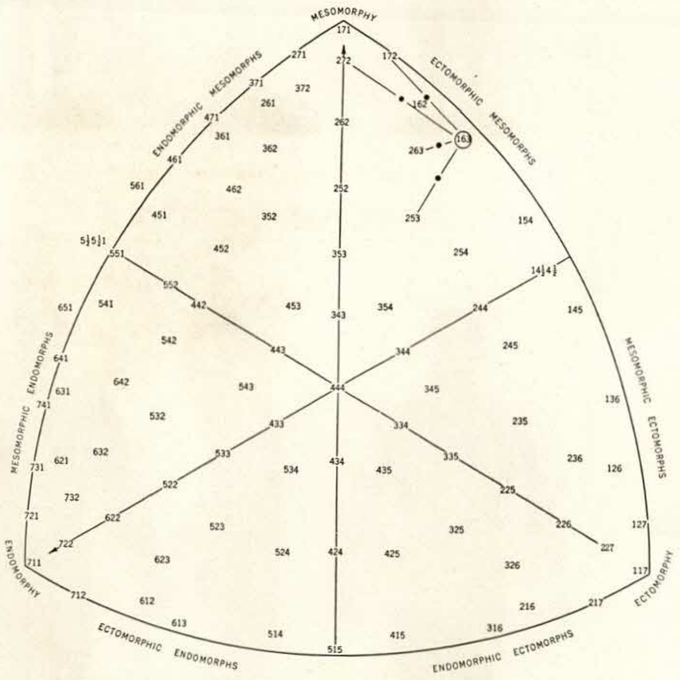
No. 109 *1 6 2* (*28*) 1 6 2–2 7 2 (1½ 6½ 2) 12.47 at 27
1½ 6½ 2, 1½ 6½ 2½, 1½ 6½ 1½, 1½ 6 3, 2 6½ 2



No. 110 *1 6 2* (*29*) 1 6 2–2 7 2 (1½ 6½ 2) 12.32 at 39
1½ 6½ 1½, 1½ 6½ 2, 1½ 6 2, 1½ 6½ 2, 2 6½ 1½

Somatotype 1 6 3 *(Ectomorphic extreme mesomorphy at extreme endopenia, 10-level.) The great gray owl. A fast, rapacious haunter of the arctic gloom, with talons destructive enough to kill a tomcat almost instantly, or to strike down a boy intrepid enough to molest the nest. Largest and tallest of the New World owls. Nos. 111–120.*





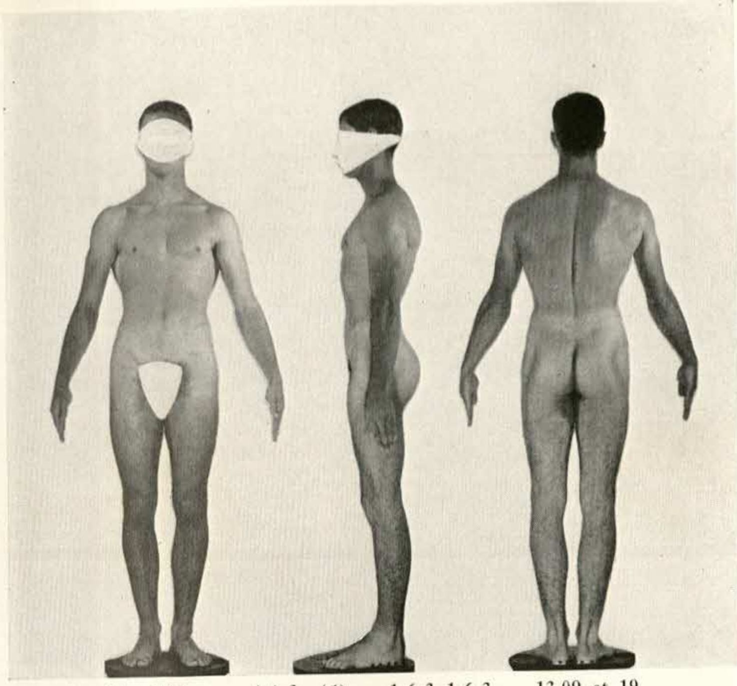
Weight for Age and Height

Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	187	189	189	190	191	192	193	194	195	195
74	179	180	181	183	184	185	185	186	187	187
73	172	173	174	176	177	178	178	179	180	180
72	165	167	168	169	169	170	171	172	173	173
71	158	160	161	162	163	164	164	165	166	166
70	152	154	155	156	156	157	158	158	159	159
69	145	147	148	149	150	151	151	152	152	152
68	139	141	142	143	144	144	145	145	145	145
67	133	135	136	136	137	137	138	139	139	139
66	127	129	130	130	131	131	132	132	133	133
65	122	123	124	124	125	126	126	126	127	127
64	116	117	118	119	119	120	120	121	121	121
63	110	112	112	113	114	114	115	115	116	116
62	105	106	107	108	108	109	109	109	110	110
61	100	101	102	103	103	104	104	104	105	105

Rarity 4. Incidence 3 per thousand. The nutrition curve of the 1 6 3 is flatter than that of the 1 6 2, and it does not curl down at the end, as does the latter (slightly). The 1 6 2 tends to jettison weight a little in order to survive his sixties. We have seen too few of these scarce somatotypes to have more than an early impression, but the impression is that the 1 6 3, with his very flat nutrition curve, tends less often to run into cardiac or other crippling distress during the sixth and seventh decades than does his more compact cousin the 1 6 2. The indication seems to be that where mesomorphy predominates the outlook for long life improves somewhat with ectomorphy. The converse also appears to hold good.

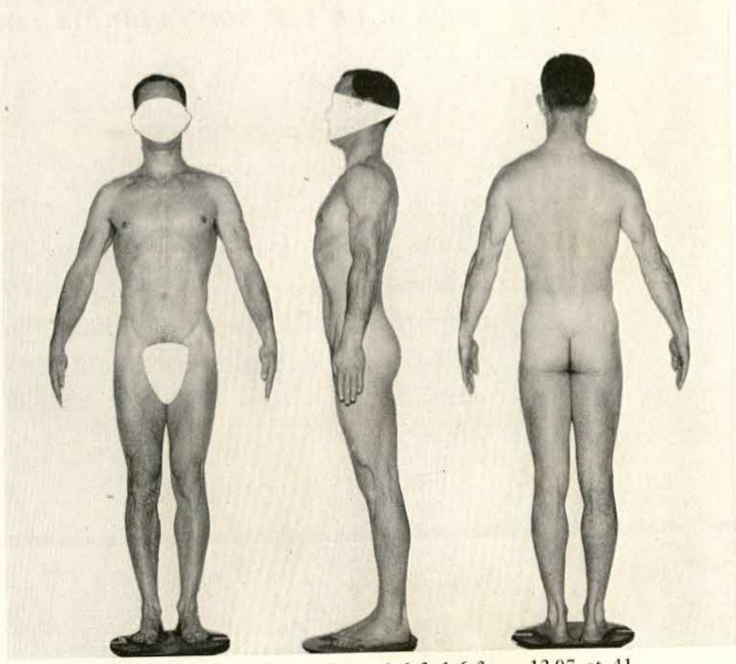
The 1 6 3 is ordinarily too brittle for boxing or for wrestling at the championship level, but a very large man of this somatotype family may have tremendous strength and speed, and may sometimes perform great athletic feats. Abraham Lincoln, for example, probably about a 1½ 6 3, was for years an amateur wrestling champion. He is said to have weighed 190-195 pounds at age 30.

In psychopathy, the endopenes tend toward the paranoid reaction patterns. The endopenes of the Southeast (low in mesomorphy) develop mainly *ideational* paranoia, which is only *mental* unreasonableness and is not necessarily dangerous (See Vol. 3, Chapter 2). But the endopenes of the Northeast, being mesomorphs, develop reaction patterns characterized by aggressive somatic violence. This is *muscular* unreasonableness, and an excited paranoid 1 6 3 can be as destructively dangerous in a human setting as a great gray owl in a colony of Snowshoe rabbits.

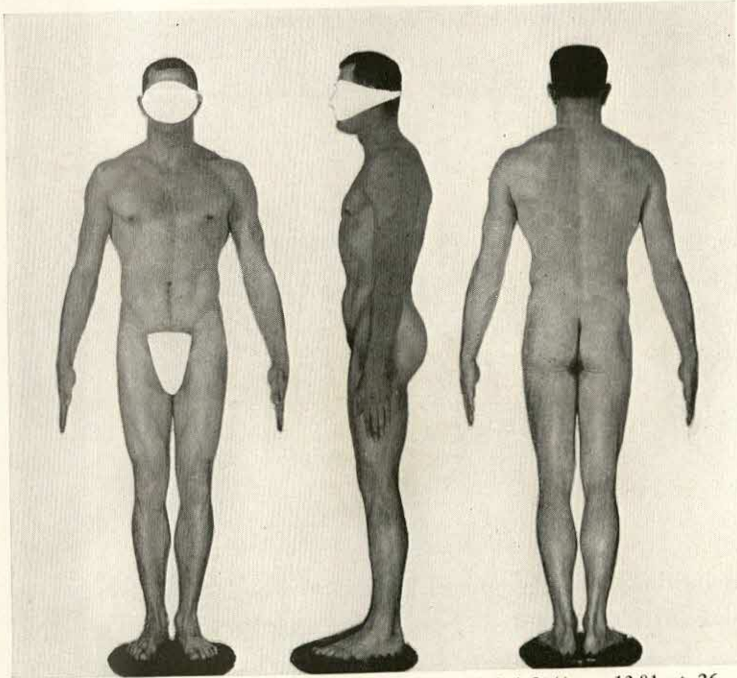


No. 111 *1 6 3* (*1*) 1 6 3–1 6 3 13.09 at 19
1½ 5½ 3, 1 6 3, 1 6 2½, 1 6 3, 1½ 5½ 3

163

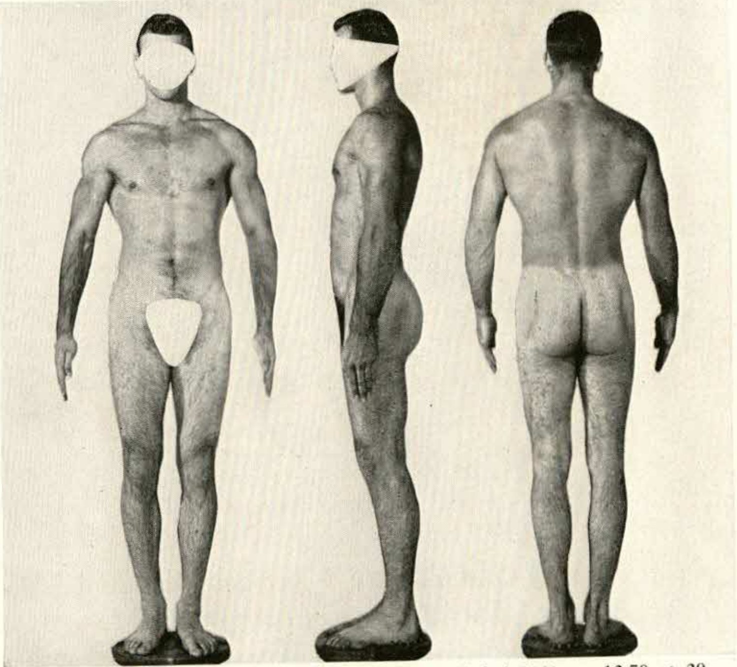


No. 112 *1 6 3* (*2*) 1 6 3–1 6 3 12.97 at 41
1½ 5½ 3, 1 6 2½, 1 6 2½, 1 6 3, 1½ 6 3

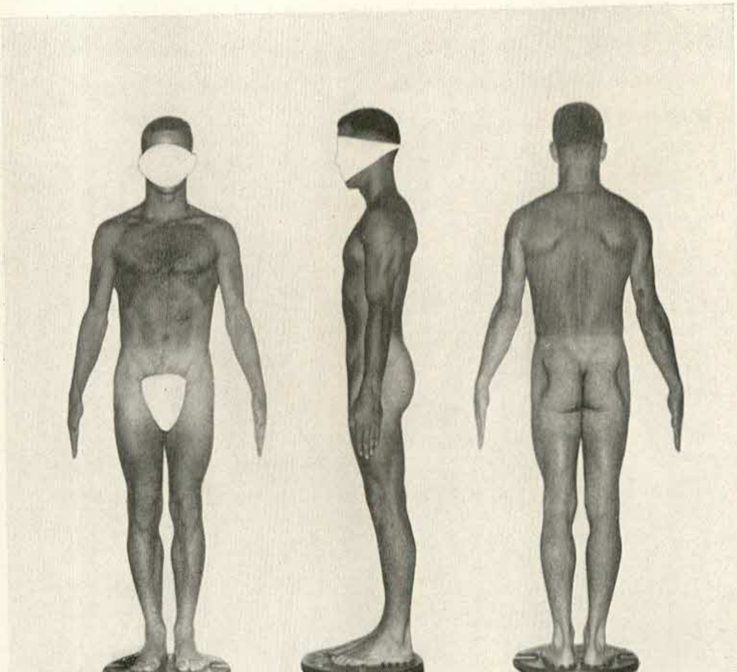


No. 113 *1 6 3* (*3*) 1 6 3–1 7 2 (1 6½ 2½) 12.81 at 26
1½ 7 2, 1 7 2, 1 6½ 2½, 1 6½ 2½, 1½ 6 3

163

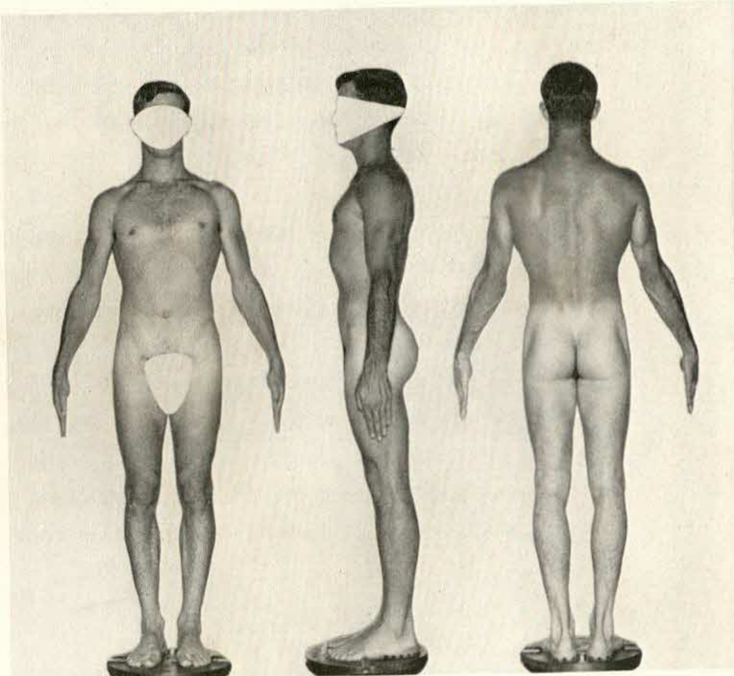


No. 114 *1 6 3* (*4*) 1 6 3–1 7 2 (1 6½ 2½) 12.78 at 29
1 6 3, 1 7 2, 1 7 2, 1 6½ 2½, 1½ 6 3



No. 115 *1 6 3* (*5*) 1 6 3–2 5 3 (1½ 5½ 3) 13.15 at 19
1½ 6 3, 1½ 6 3, 1½ 5½ 3, 1 5½ 3½, 1½ 5½ 3

163

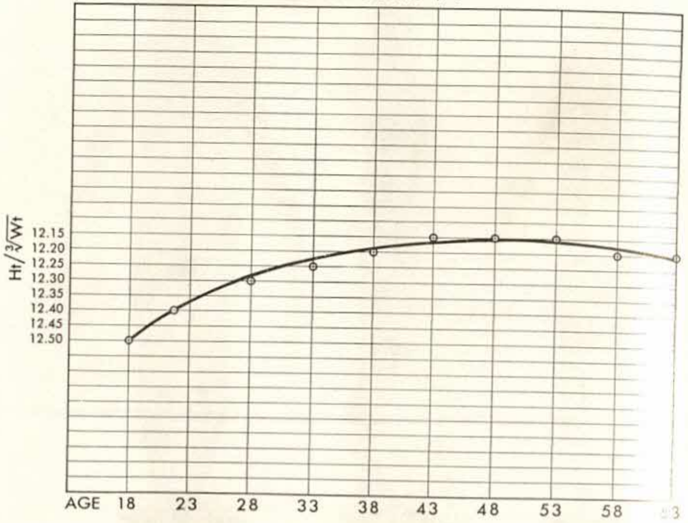


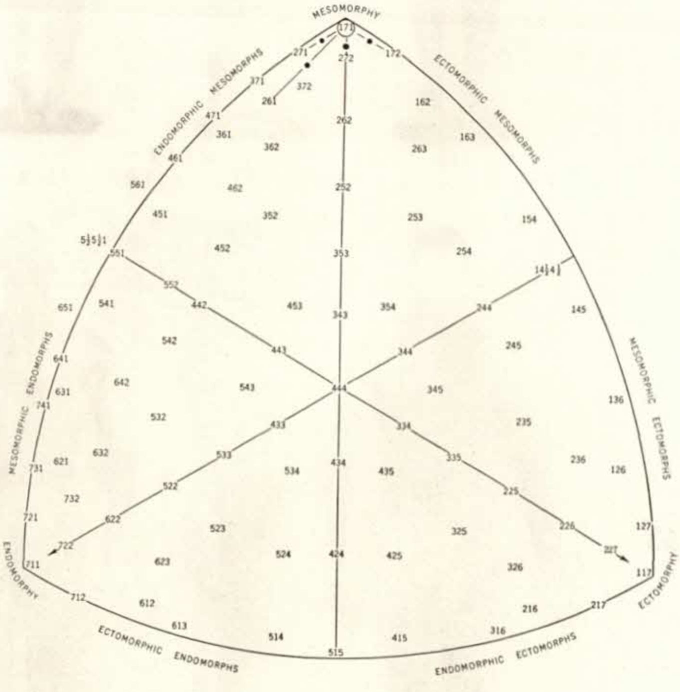
No. 116 *1 6 3* (*6*) 1 6 3–2 5 3 (1½ 5½ 3) 13.05 at 24
1½ 5½ 3, 1½ 6 3, 1½ 5½ 3, 1½ 5½ 3, 1½ 5½ 3½

7. EAGLES

Somatotype 1 7 1 *(Polar mesomorphy, 9-level.) At the structural maximum in the second component, and at the minimum in the other two. The polar North. Golden eagles. Cumbersome battleships of the air, as birds of prey go, yet agile enough to hunt jack rabbits with success and powerful enough to kill dogs. Nos. 121–129.*

SOMATOTYPE 171





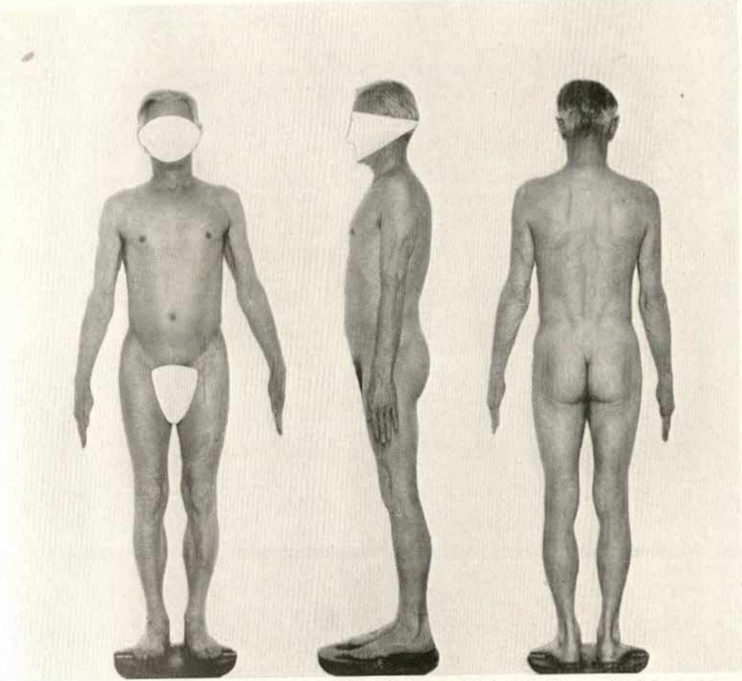
Weight for Age and Height

Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	218	220	223	228	232	233	236	234	233	233
74	208	212	214	218	222	224	226	225	224	224
73	200	203	206	209	213	215	217	215	215	215
72	192	195	198	201	205	207	209	208	207	207
71	184	187	190	193	197	199	200	199	198	198
70	177	180	182	186	189	191	192	191	190	190
69	169	173	175	178	181	183	184	183	182	182
68	162	165	168	170	173	175	176	175	174	174
67	155	158	160	163	165	168	168	168	167	167
66	148	151	153	156	158	160	161	160	159	159
65	141	144	146	149	151	153	154	153	152	152
64	135	137	139	142	144	146	147	146	145	145
63	129	131	133	135	137	139	140	139	138	138
62	122	125	127	129	131	133	133	133	132	132
61	117	119	121	123	124	126	127	126	125	125

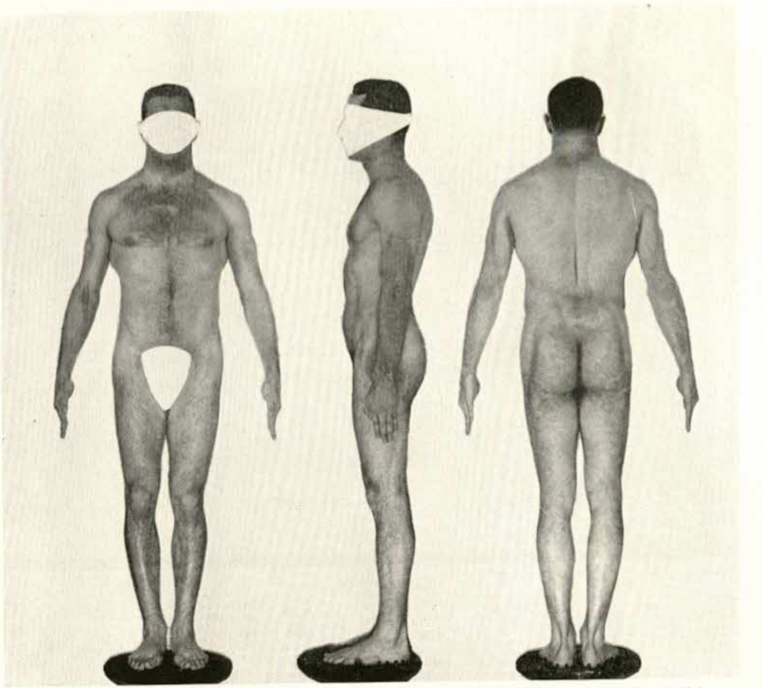
Rarity 5. Incidence 3 per ten thousand. Maximal human muscularity, and maximal hard-leanness. Yet, as the curve of nutrition shows, this somatotype tends to "soften up" appreciably with advancing age and at the mean male stature of 69 inches a 1 7 1 will as an average put on 14 or 15 pounds by the time he reaches his late forties. The granitelike contours round out a little, and presumably there is some altered ratio of the striated muscle fiber to fat.

Whether or not this *need* be so is a moot question. The extreme mesomorph, being mostly muscle, naturally loves muscular activity and welcomes a strenuous way of life, just as a duck welcomes water. The thesis has been advanced by physical educators that a man *could* maintain his weight at or near the young adult level throughout his active life if he would exercise enough and would eat rationally. This seems plausible, at least for the endopenic mesomorphs. Perhaps a 1 7 1 under conditions of hard outdoor life should "normally" weigh at 50 what he weighed at 20. It is possible too that he would then live longer and would be less vulnerable to the principal diseases of the massive, ectopenic people. But as matters are, in our American society, even the 1 7 1 apparently tends to take on more weight than he can successfully carry, and we find him jettisoning or retrenching a little after age 50.

163

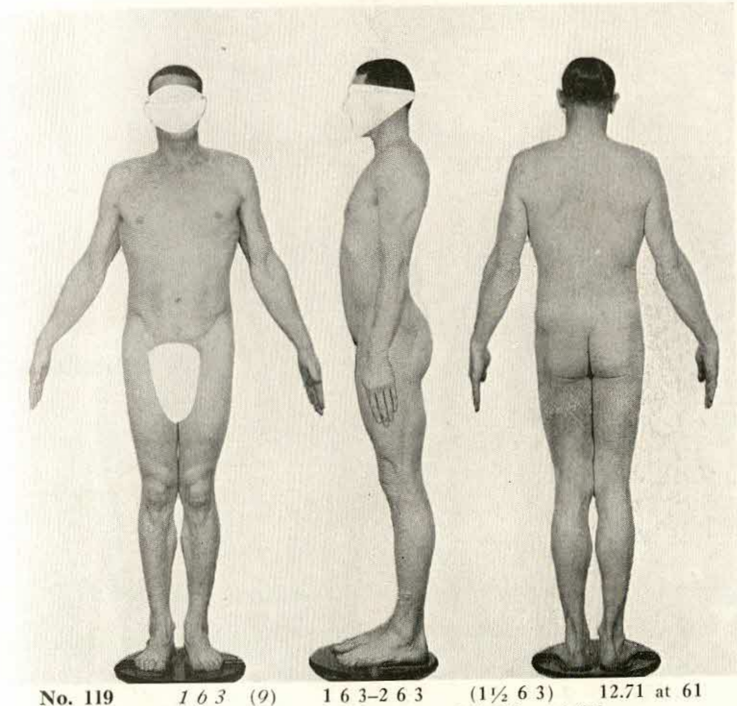


No. 117 *1 6 3* (7) 1 6 3–2 5 3 (1½ 5½ 3) 12.81 at 60
1½ 5½ 3, 1½ 5½ 3, 1½ 5 3½, 1½ 5½ 3, 1½ 5 3½

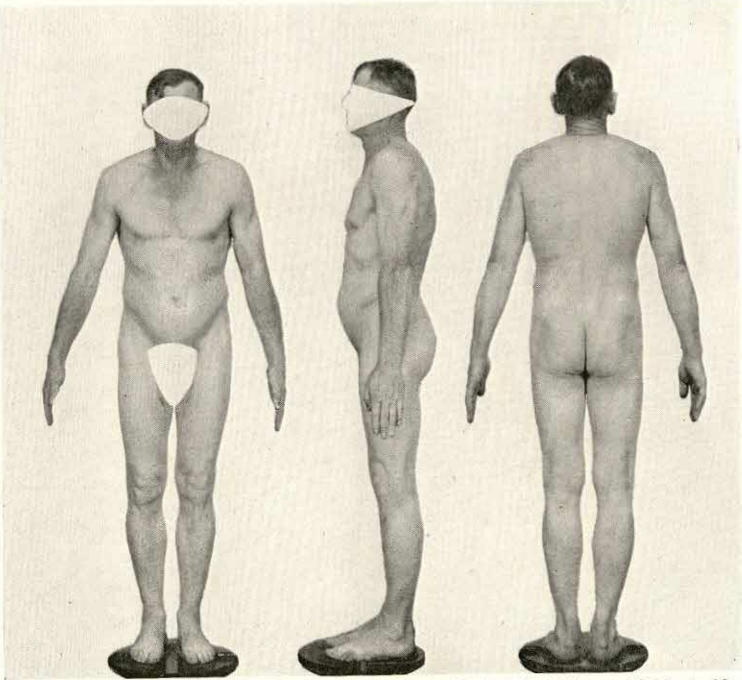


No. 118 *1 6 3* (*8*) 1 6 3–2 6 3 (1½ 6 3) 12.87 at 26
1½ 7 2, 1½ 6½ 2½, 1½ 6 3, 1½ 6 3, 1½ 5½ 3½

163

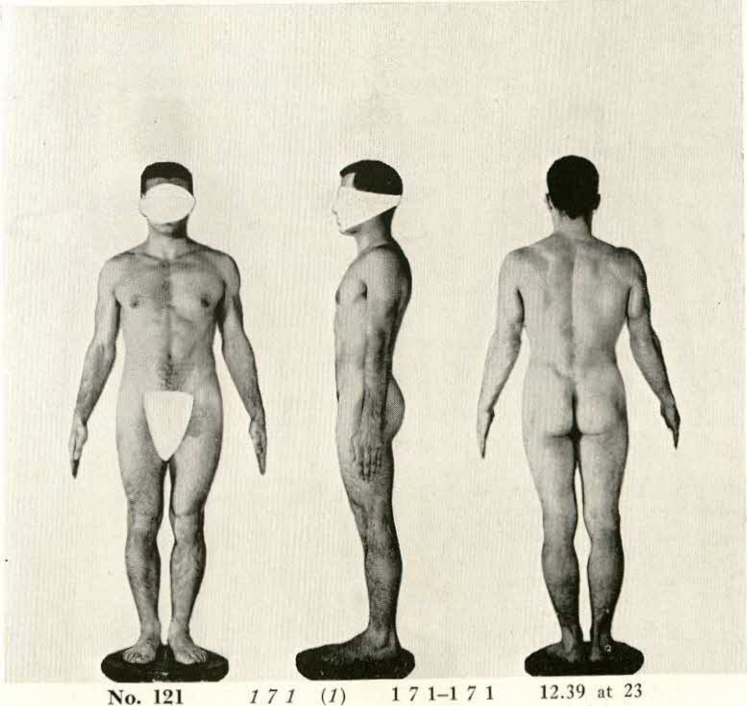


No. 119 *1 6 3* (*9*) 1 6 3–2 6 3 (1½ 6 3) 12.71 at 61
1½ 5½ 3, 1½ 6 3, 2 6 2, 1½ 6 3, 2 6 3

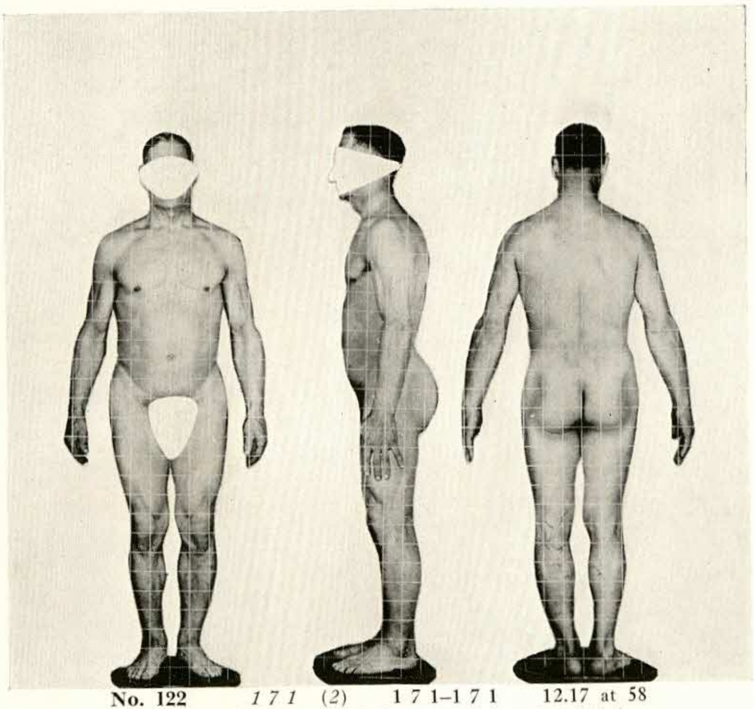


No. 120 *1 6 3* (*10*) 1 6 3–2 7 2 (1½ 6½ 2½) 12.38 at 63
1½ 6½ 2½, 1½ 6½ 2½, 1½ 6½ 2½, 1½ 6½ 2, 1½ 6 2½

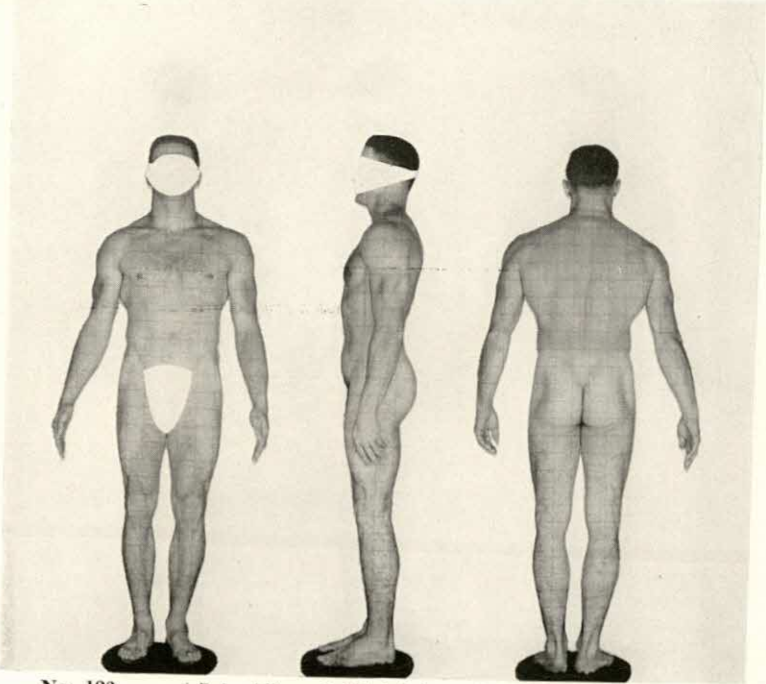
171



No. 121 *1 7 1* (*1*) 1 7 1–1 7 1 12.39 at 23
1 7 1, 1 7 1, 1½ 6½ 1½, 1 7 1, 1½ 6½ 1½

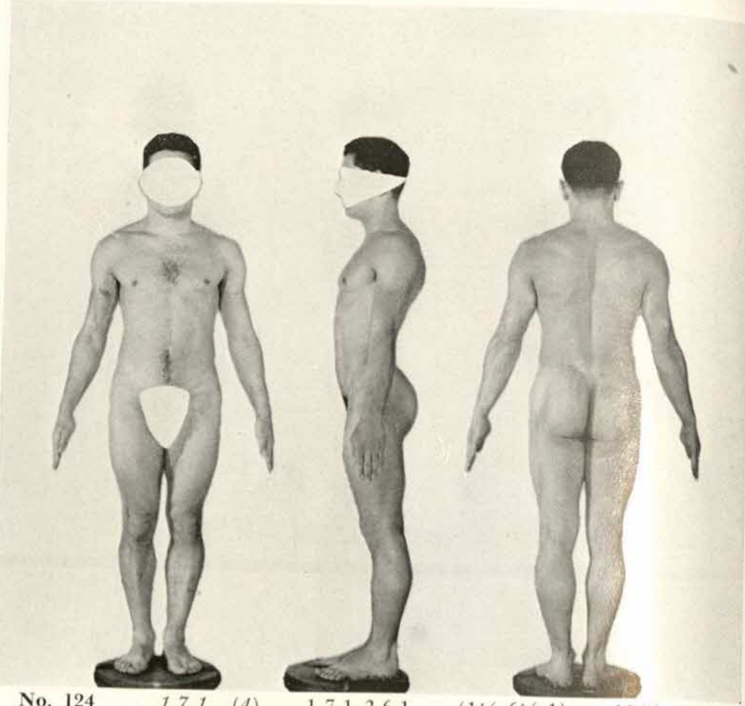


No. 122 *1 7 1* (*2*) 1 7 1–1 7 1 12.17 at 58
1 7 1½, 1 7 1, 1 7 1½, 1½ 7 1, 1½ 6½ 1

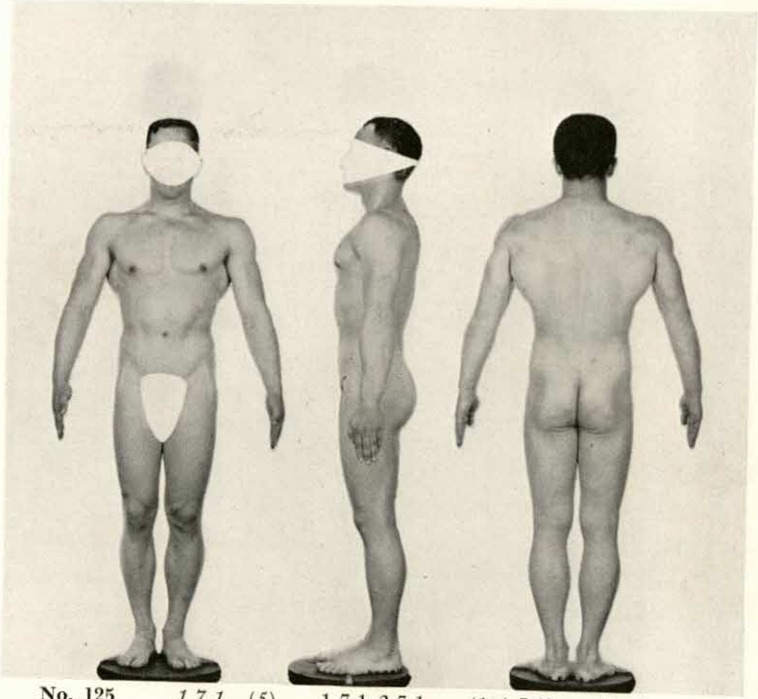


No. 123 *1 7 1* (*3*) 1 7 1–1 7 2 (1 7 1½) 12.51 at 23
1½ 7 1, 1 7 1½, 1 7 1½, 1 7 1½, 1½ 6 2

171

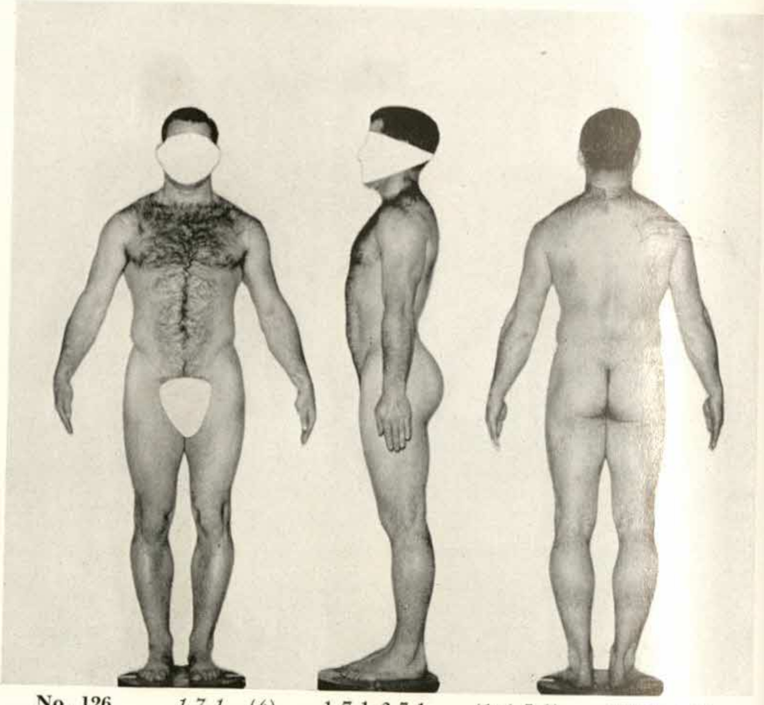


No. 124 *1 7 1* (*4*) 1 7 1–2 6 1 (1½ 6½ 1) 12.36 at 24
2 7 1, 1½ 6½ 1, 1½ 6½ 1½, 1½ 6½ 1, 2 6½ 1½

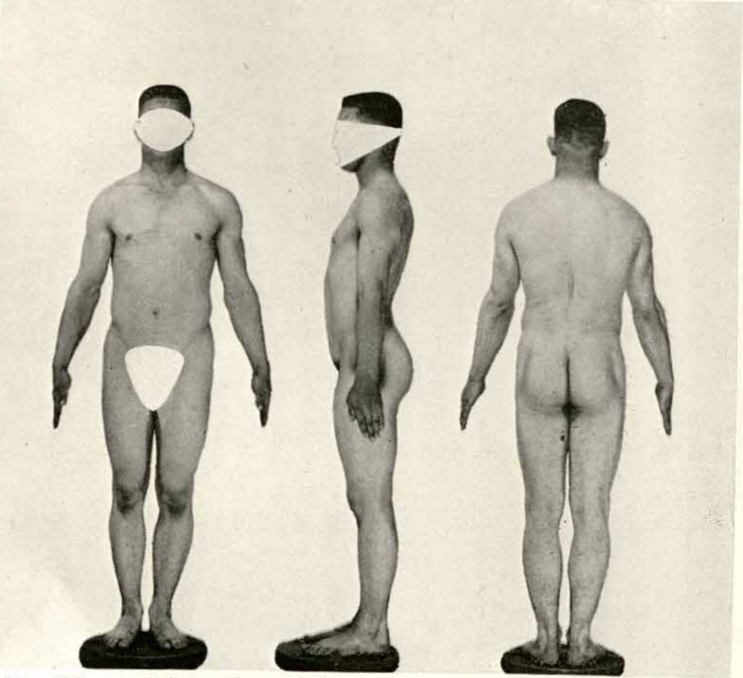


No. 125 *1 7 1* (*5*) 1 7 1–2 7 1 (1½ 7 1) 12.24 at 22
2 7 1½, 1½ 7 1, 1½ 7 1, 1½ 7 1, 2 6½ 1½

171

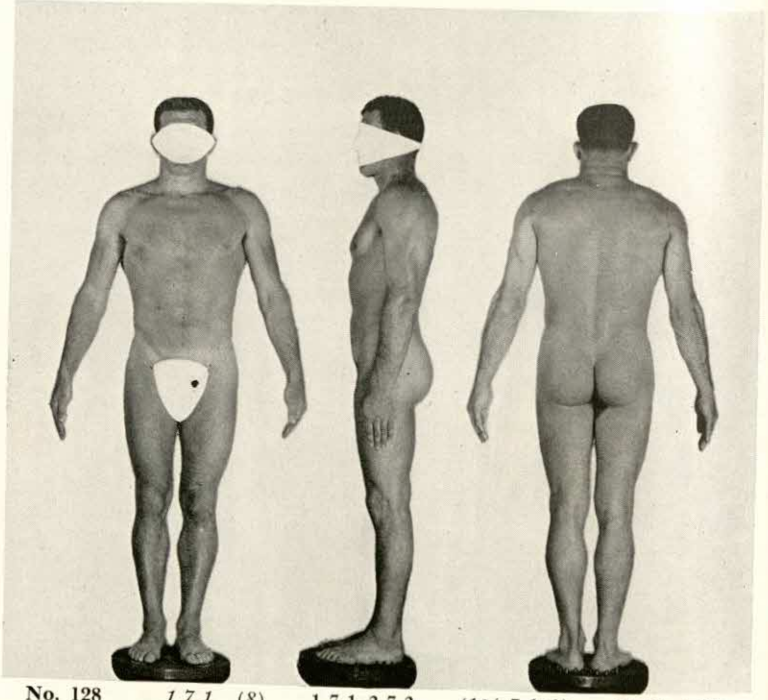


No. 126 *1 7 1* (*6*) 1 7 1–2 7 1 (1½ 7 1) 11.98 at 36
2 7 1, 1½ 7 1, 1½ 7 1, 1½ 7 1, 2 7 1½



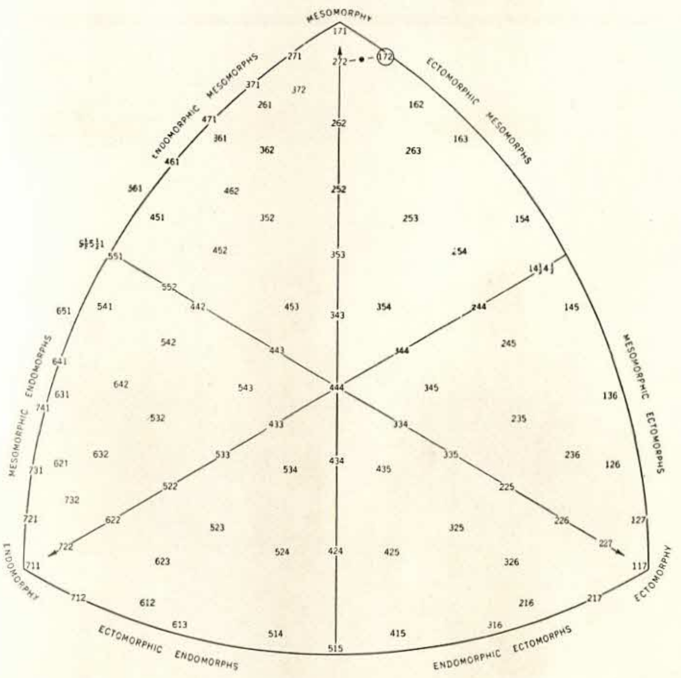
No. 127 *1 7 1* (*7*) 1 7 1–2 7 2 (1½ 7 1½) 12.49 at 19
1½ 7 1½, 1½ 6½ 2, 1½ 6½ 1½, 1½ 7 1½, 2 7 1

171

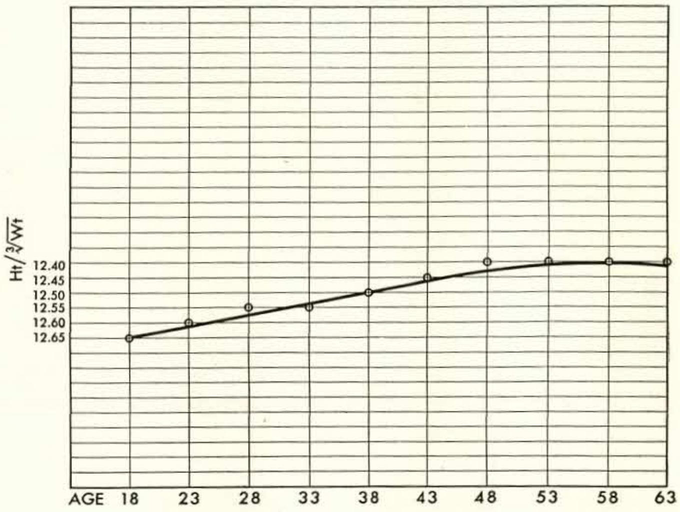


No. 128 *1 7 1* (*8*) 1 7 1–2 7 2 (1½ 7 1½) 12.28 at 29
1½ 7 1, 1½ 7 1½, 1½ 7 1½, 1½ 6½ 1½, 1½ 7 1½

Somatotype 1 7 2 *(Ectomorphic polar mesomorphy at extreme endopenia, 10-level.) Bald eagles. The American Eagle. Fast and agile for their comparatively great size. Powerful enough to force the formidable Osprey to drop his newly caught fish in mid-air; agile enough to dive and retrieve the fish before it can fall to the water. Nos. 130–131.*



SOMATOTYPE 172



Weight for Age and Height

Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	207	210	213	214	216	219	220	222	222	221
74	200	202	203	204	206	209	212	212	212	212
73	191	192	195	196	198	200	202	203	203	203
72	183	185	188	189	190	192	194	195	195	195
71	176	178	180	181	183	185	187	187	187	187
70	168	170	173	174	175	178	179	180	180	179
69	162	164	166	167	168	170	172	173	173	172
68	155	157	159	160	161	163	165	165	165	165
67	148	150	152	153	154	156	157	158	158	157
66	141	143	145	146	147	149	150	151	151	150
65	135	136	138	139	140	142	143	144	144	144
64	128	130	132	133	134	135	137	137	137	137
63	122	124	126	127	128	129	131	131	131	131
62	117	118	120	121	122	123	125	125	125	125
61	111	113	114	115	116	117	119	119	119	119

Rarity 5. Incidence 5 per ten thousand. Maximal muscularity and also sufficient linearity and length of limb for great striking power. The 1 7 1 is inclined to be restricted in his play of movement—"muscle-bound." The 1 7 2, with long-limbed freedom of action, often with tall stature, with rugged power at its maximum and with fast agility, presents something like an incarnation of a heroic ideal. It is a masculine ideal of warlike and conquesting peoples. Often the heroes of the comic strips are of about this somatotype. Smilin' Jack, Dick Tracy and Li'l Abner are very close to the 1 7 2 pattern. Superman is about a 2 7 2. Their creators may intuitively sense and portray the correlations with which we are here more objectively and prosaically concerned.

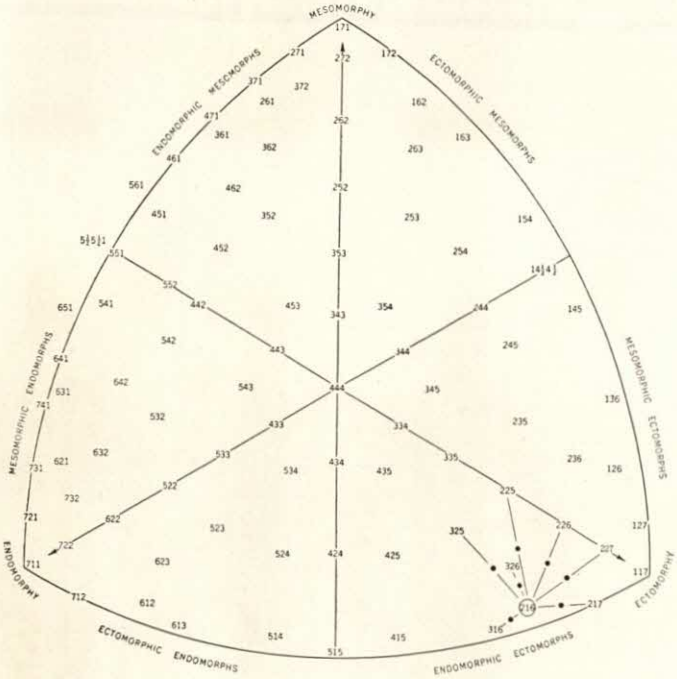
In real life, even with maximal mesomorphy, the extreme endopenia of the 1 7 2 presents a serious handicap to championship athletic performance. The most durable fighters and players of hard games are cushioned and rendered elastic by a 2 or 3, or even a 4, in endomorphy. That is why they put on weight so easily when they stop training. At professional baseball or football, or professional fighting and wrestling, where smooth routine performance is more important than the sporadic heroic episode, the relaxation of the first component seems to be a necessary ingredient to prolonged success. It is possible though that in earlier days, when the issue was decided by a single stroke of spear or battle axe, the mighty but vulnerable 1 7 2 may have had the advantage.

7

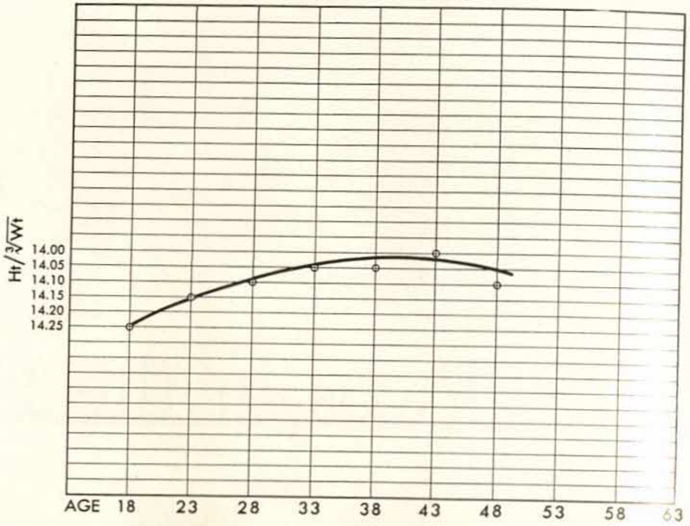
Twos in the First Component

8. STINGLESS MOSQUITOES

Somatotype 2 1 6 *(Endomorphic extreme ectomorphy at extreme mesopenia, 9-level.) Little male mosquitoes. Frail waifs of the night air, almost helpless, and they cannot even sting. Nos. 132–143.*



SOMATOTYPE 216



Weight for Age and Height

Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	146	148	150	151	152	154	150	..	..	..
74	140	142	144	145	146	147	144	..	..	..
73	134	136	138	139	140	141	138	..	..	..
72	129	131	132	134	134	136	132	..	..	..
71	124	126	127	129	129	130	127	..	..	..
70	119	121	122	123	124	125	122	..	..	..
69	114	116	117	118	119	120	117	..	..	..
68	109	111	112	113	114	115	112	..	..	..
67	104	106	107	108	109	110	107	..	..	..
66	100	101	102	103	104	105	102	..	..	..
65	95	97	98	99	99	100	98	..	..	..
64	91	92	93	94	95	96	93	..	..	..
63	87	88	89	90	90	91	89	..	..	
62	82	83	84	85	86	87	84	..	..	..
61	79	80	80	81	82	82	80	..	..	..

Rarity 5. Incidence 2 per ten thousand. A flaccid, excessively mesopenic somatotype of rare occurrence and apparently of short life. Not encountered in our sample beyond age 50.

In general the musculature of the body may be likened to a system of elastic bands which by their different tensions and strengths mold and shape the anatomical contours. In those physiques in which the first component predominates over the second, especially when the third component predominates over both, it is as though the elastic used were thin and of poor quality. The body wall seems to stretch too easily and to lack the contractile power needed to return to (the mesomorphic) position and shape. It is this characteristic, together with general flaccidity and droopiness, that is meant by the term "poor muscle tone." When the first component predominates over the second, the molding power of the bodily musculature is lost and the body, like a raindrop, tends to assume the spherical form. If under such conditions the third component is the predominant one, then the spherical tendency is not lost but may be said to be scattered. It is not observed in the body as a whole, but is seen locally at various points, such as the abdomen, the buttocks, around the breasts, the cheeks, and in the hamming of the upper arms and thighs. In an endomorphic ectomorph, or ectomorphic endomorph, the third component seems to exert the effect, not of destroying the spherical tendency of endomorphy, but rather of breaking up or elongating the central sphere into smaller, more peripheral spheres.[1]

The flaccid 2 1 6, almost an extreme endopene, of course does not very strongly suggest a raindrop even at his fattest, but he does present a dramatic enough contrast with the spry and brittle 1 2 6. In the mental hospitals, where both of these somatotypes are more common than in the outside population, the contrast is accentuated. As the schizophrenia of the 1 2 6 tends toward the paranoid pole, that of the 2 1 6 is almost wholly hebephrenic.

The 2 1 6 is the first of the "down under" somatotypes, as the extreme mesopenes at the Southern fringe of the distribution have sometimes been called.

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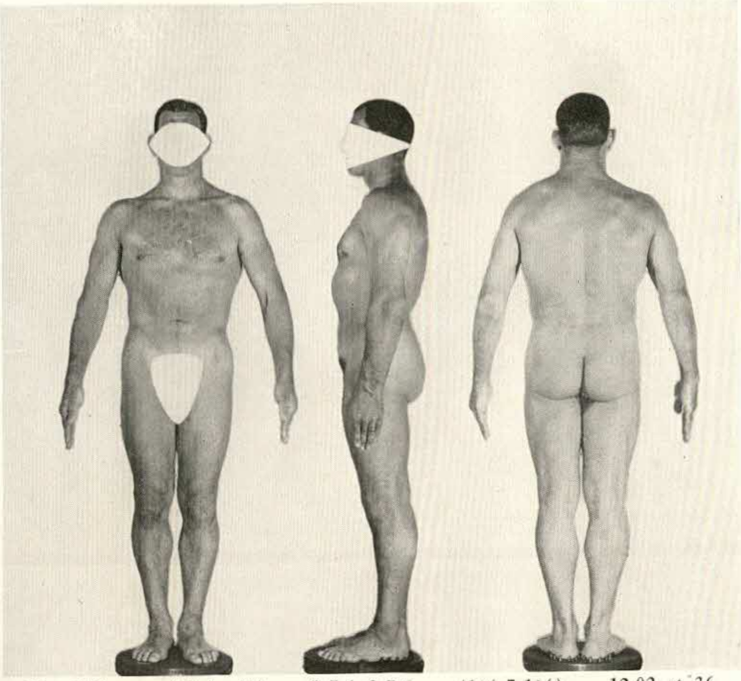
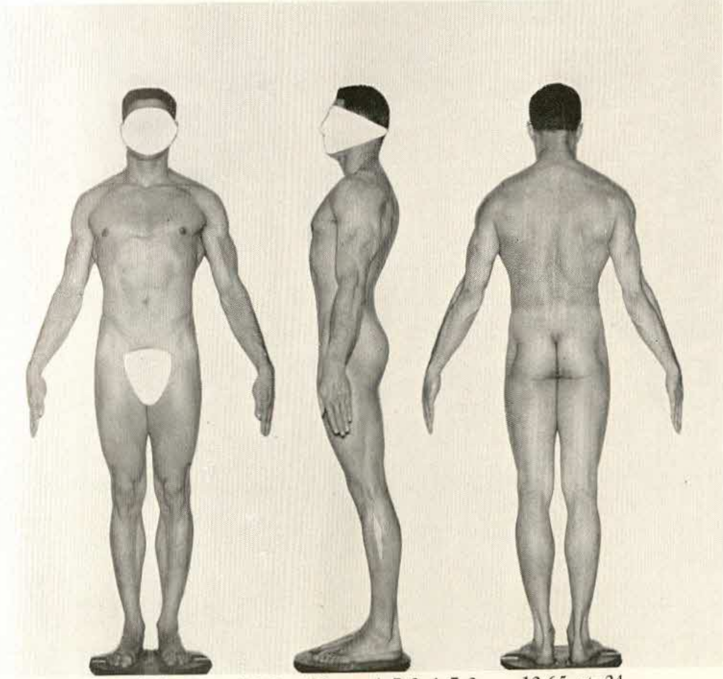
[1] VHP, p. 150.

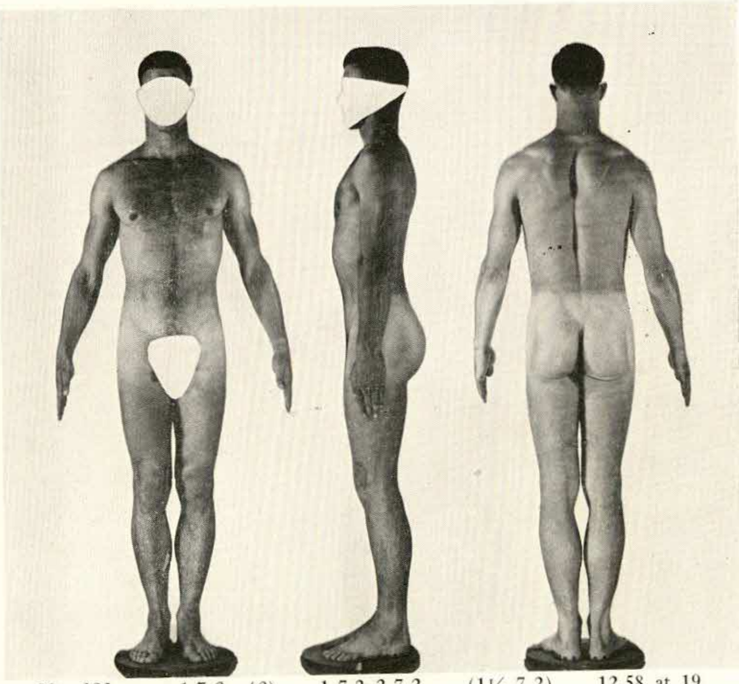


No. 129 *1 7 1* (*9*) 1 7 1–2 7 2 (1½ 7 1½) 12.02 at 36
1½ 7 1½, 1½ 7 1½, 1½ 7 1½, 1½ 7 1, 1½ 7 1½

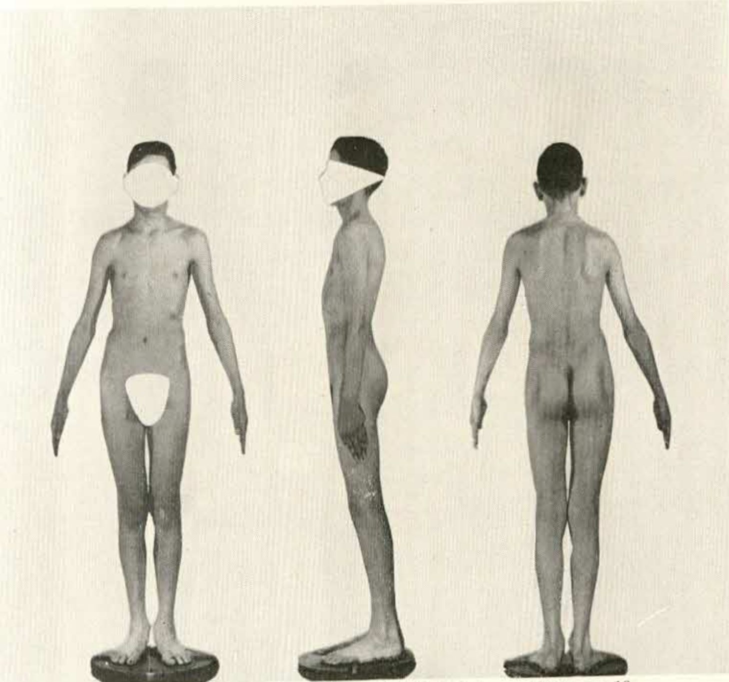


No. 130 *1 7 2* (*1*) 1 7 2–1 7 2 12.65 at 24
1 7 1½, 1 7 1½, 1 7 2, 1 6½ 2½, 1½ 6½ 3

172

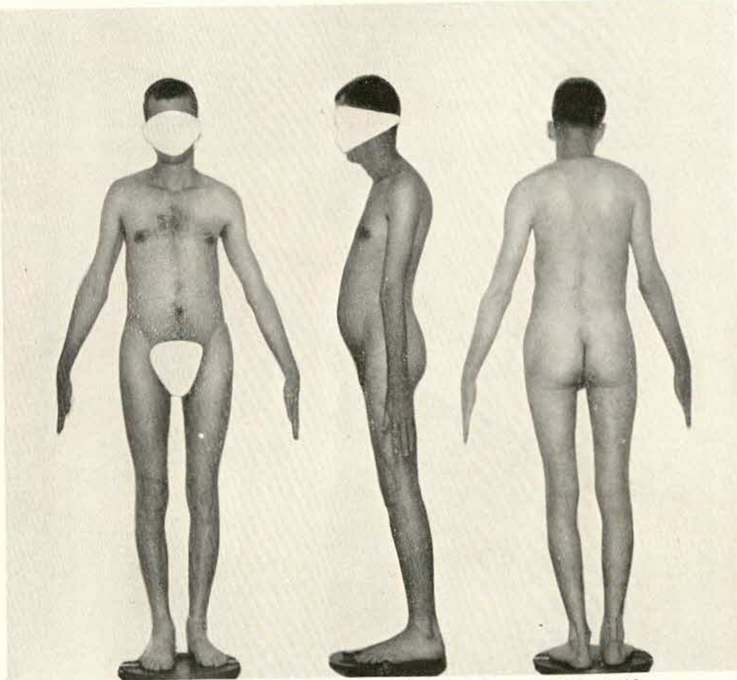


No. 131 *1 7 2* (*2*) 1 7 2–2 7 2 (1½ 7 2) 12.58 at 19
1½ 7 2, 1½ 6½ 2, 1 7 2, 1½ 7 2, 1½ 6½ 2½

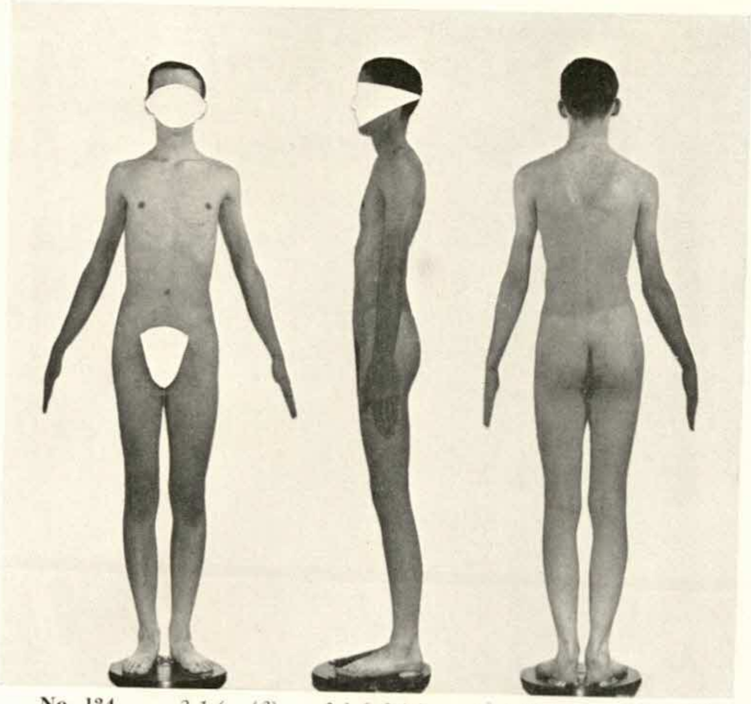


No. 132 *2 1 6* (*1*) 2 1 6–2 1 6 14.21 at 19
2 1½ 5½, 2 1 6, 2 1 6½, 2 1 6½, 2 1 6

216

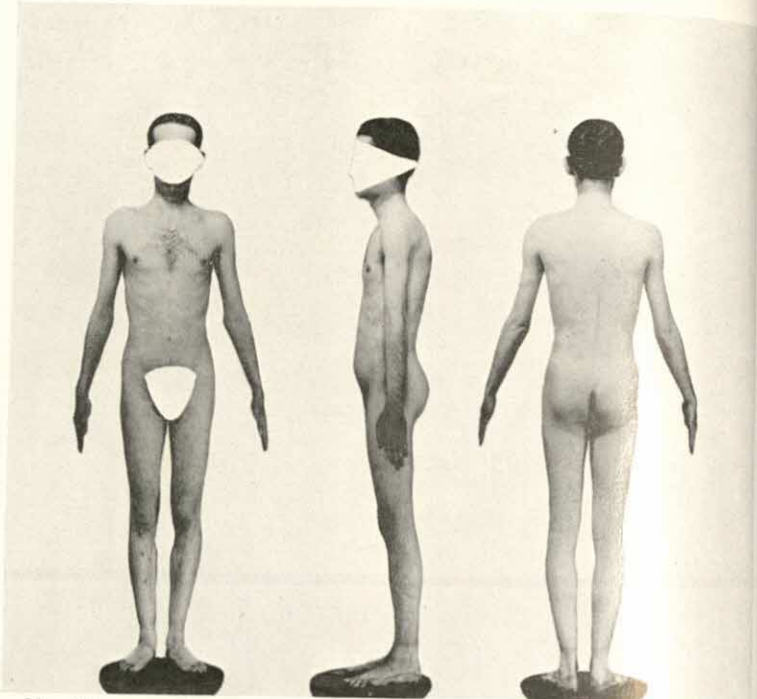


No. 133 *2 1 6* (*2*) 2 1 6–2 1 6 14.00 at 40
2 1½ 5½, 2 1 6, 2 1 6½, 2½ 1 5½, 2 1½ 6

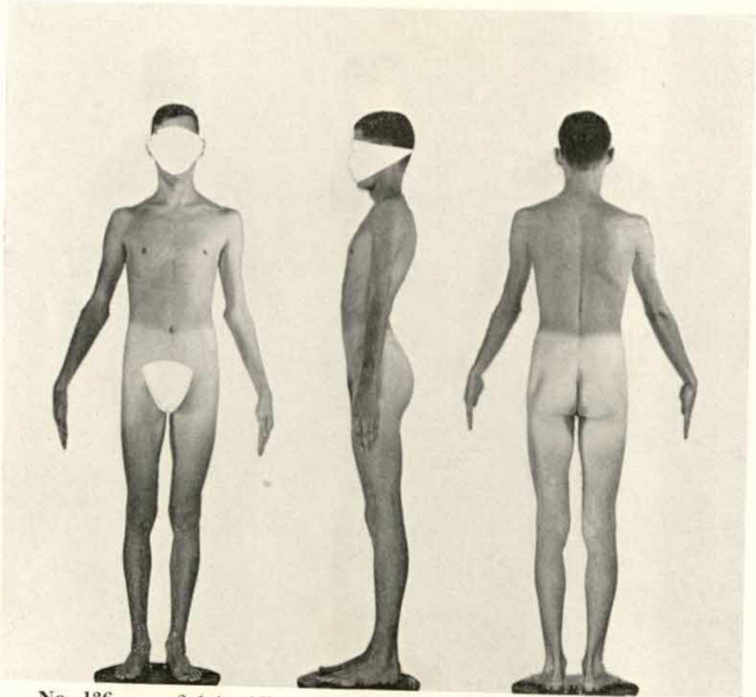


No. 134 *2 1 6* *(3)* 2 1 6–2 1 7 (2 1 6½) 14.32 at 19
2 1 6½, 1½ 1 7, 2 1 6, 2 1 7, 3 1½ 5

216

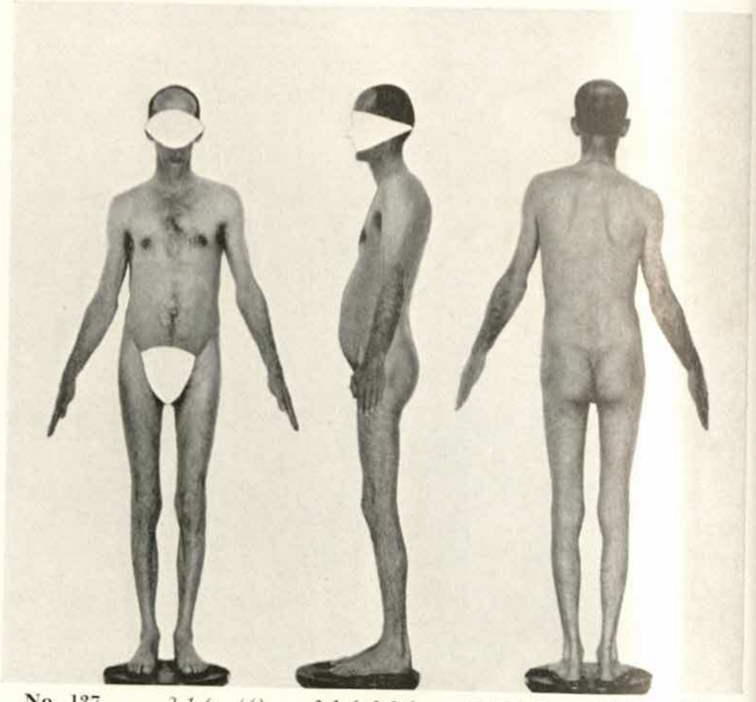


No. 135 *2 1 6* *(4)* 2 1 6–2 2 5 (2 1½ 5½) 13.96 at 28
2 1½ 5½, 2 1 6, 2 1½ 5½, 2 1 6, 2 1½ 5½

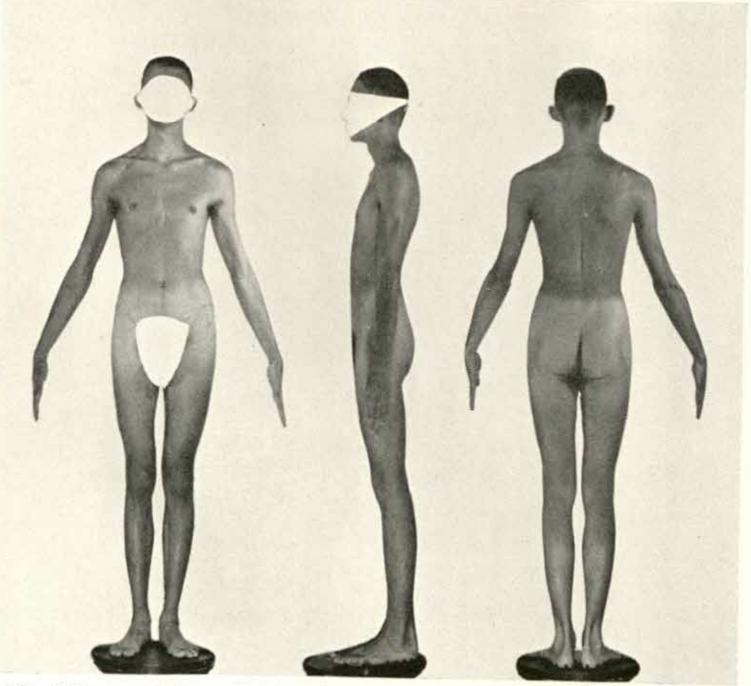


No. 136 *2 1 6* *(5)* 2 1 6–2 2 6 (2 1½ 6) 14.16 at 18
2 2 6, 2 1½ 6, 1½ 1½ 6½, 1½ 1½ 6½, 2 1½ 6

216

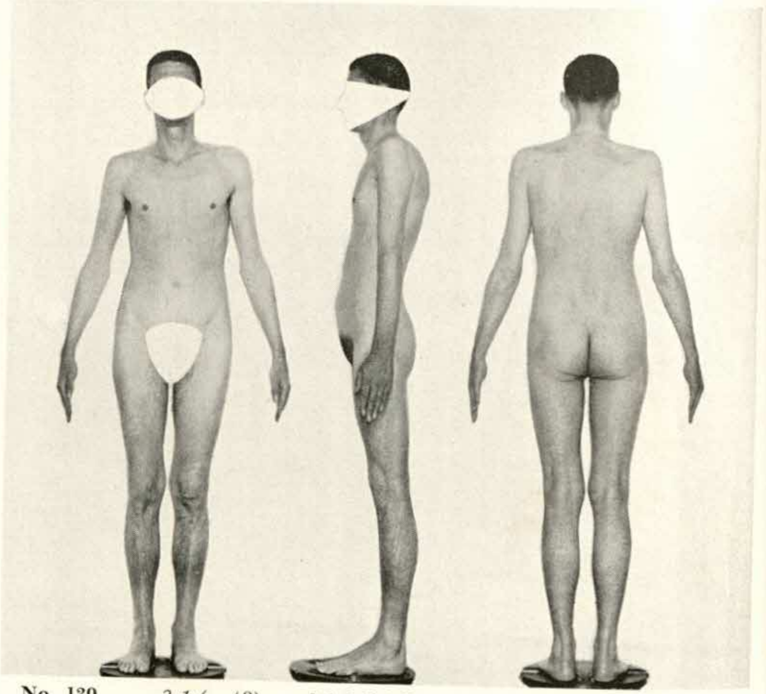


No. 137 *2 1 6* *(6)* 2 1 6–2 2 6 (2 1½ 6) 13.92 at 53
1½ 1½ 6½, 2 1½ 6, 2 1½ 5½, 2 1½ 6, 1½ 1 6½



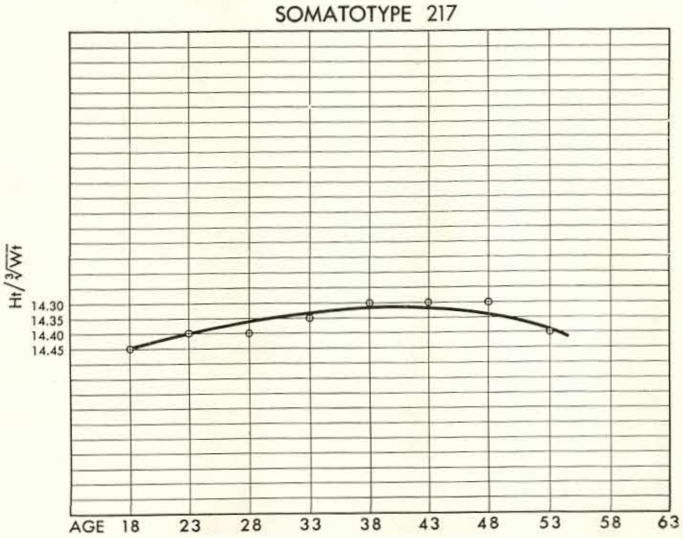
No. 138 *2 1 6* *(7)* 2 1 6–2 2 7 (2 1½ 6½) 14.26 at 18
2 1½ 6½, 2 1½ 6½, 1½ 1½ 6½, 2 1 7, 2 1½ 6½

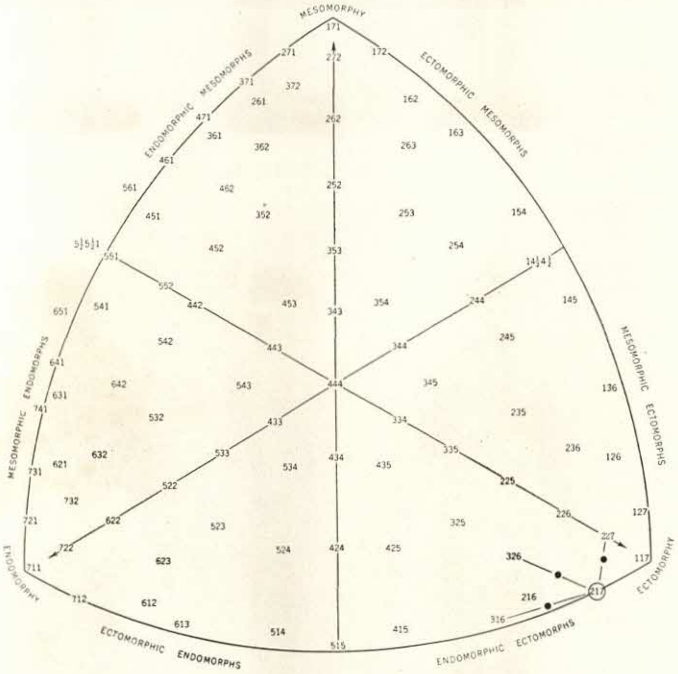
216



No. 139 *2 1 6* *(8)* 2 1 6–2 2 7 (2 1½ 6½) 14.03 at 45
2 1½ 6½, 2 1½ 6½, 2 1½ 6½, 2 1½ 6, 2½ 2 6

Somatotype 2 1 7 *(Endomorphic polar ectomorphy at extreme mesopenia, 10-level.) Big male mosquitoes. Larger, with longer legs and wings, but even more nakedly fragile. Helpless and stingless. Nos. 144–149.*



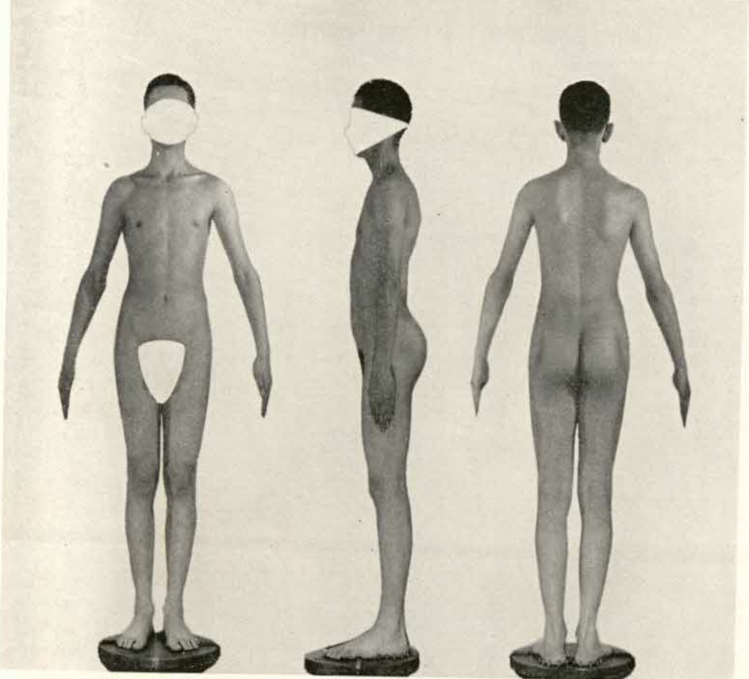


Weight for Age and Height

Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	139	140	141	143	144	145	144	141	..	..
74	133	134	136	137	138	138	138	136	..	..
73	128	129	130	131	132	133	133	130	..	..
72	123	124	125	126	127	128	127	125	..	..
71	118	119	120	121	122	123	122	120	..	..
70	113	114	116	116	117	118	117	116	..	..
69	109	110	111	112	112	113	112	111	..	..
68	104	105	106	107	108	108	108	106	..	..
67	100	100	101	102	103	104	103	101	..	..
66	95	96	97	98	98	99	98	97	..	..
65	91	91	93	93	94	95	94	93	..	..
64	87	88	89	89	89	90	90	89	..	..
63	82	83	84	85	86	86	86	84	..	..
62	79	80	80	81	82	82	82	80	..	..
61	75	76	77	77	77	78	77	77	..	..

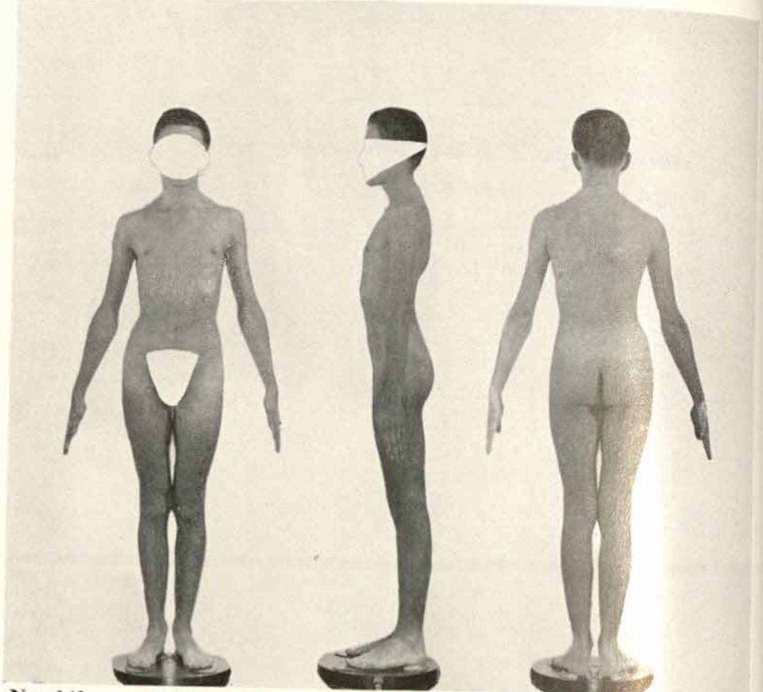
Rarity 5. Incidence 4 per ten thousand. The nutrition curve appears flatter than that of the 2 1 6. The 2 1 7 therefore may be somewhat longer lived, and he is not quite so rare. We again encounter the indication that somatotypes totaling only 9 in the three primary components represent one kind of borderline for human viability. Just as the 1 2 7, even with his extreme polar ectomorphy, seems to "do better" than the less extreme 1 2 6, so it is with the 2 1 7 and 2 1 6. The 10-total somatotype seems more resistant to disintegration than the 9-total, even when the former represents a polar extreme in one of the components.

If the 1 2 7 may be considered in one sense a reënforced 1 1 7, the 2 1 7 can be regarded as a *heavily loaded* 1 1 7. This excessively frail organism is loaded with endomorphy. In this somatotype we do not see the sprightly erectness of the 1 2 7 but instead there is inclined to be a languid flaccidity or even a floppiness of movement and a looseness at the joints which might cause a young physical educator to bite his fingernails. Even the best of postural training will not correct the difficulty, and there is no form of organized athletics to which the "down under" 2 1 7 is adapted. But he usually can learn to swim, for with even this small increment of endomorphy his light, frail body gains greatly in buoyancy (has lower specific gravity) and floats higher in the water. Sometimes young men of this general somatotype family, long frustrated by their physical ineptness in every other direction, find with enduring delight that they can feel at home in the water—that is, in relatively warm water, for with their great delicacy and great exposure of surface they cannot stand cold water. These extreme ectomorphs fit poorly in high or mountain country. They seem to belong to the shorelines and to the low coastal plains. Often they can be helped by moving to lower country.

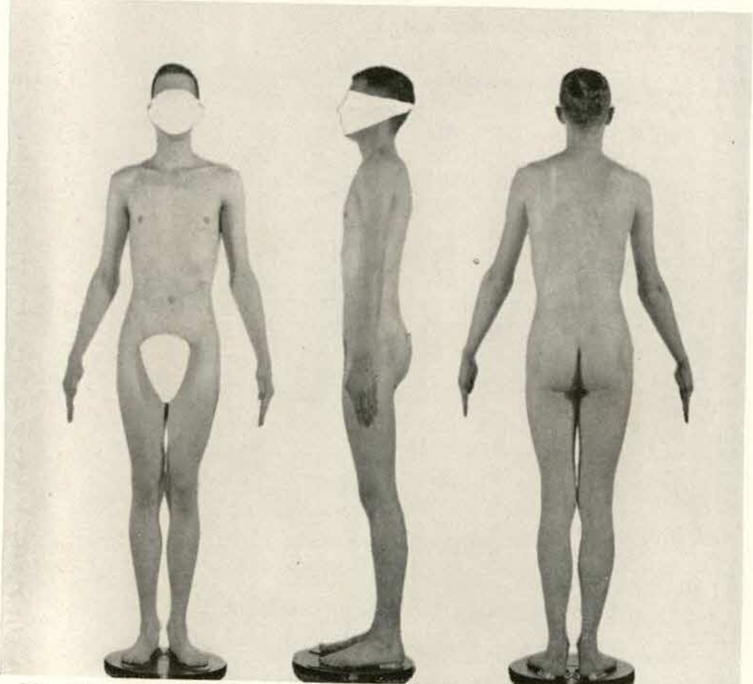


No. 140 *2 1 6* (*9*) 2 1 6–3 1 6 (2½ 1 6) 14.13 at 19
2½ 1½ 6, 2½ 1 6, 2 1 6, 2½ 1 6, 3 1½ 6

216

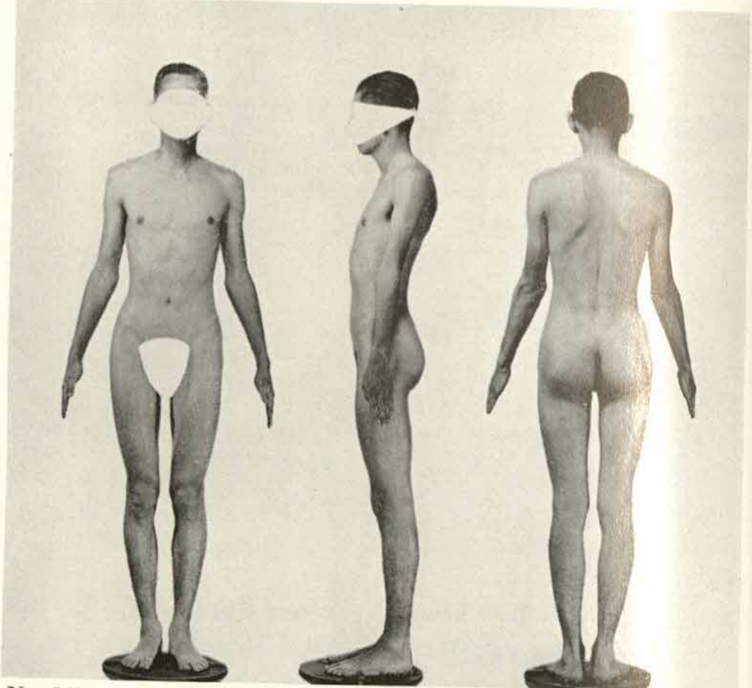


No. 141 *2 1 6* (*10*) 2 1 6–3 2 5 (2½ 1½ 5½) 13.98 at 19
2½ 2 5½, 2½ 1½ 5½, 1½ 1½ 6, 2½ 1 5½, 3 1½ 5½

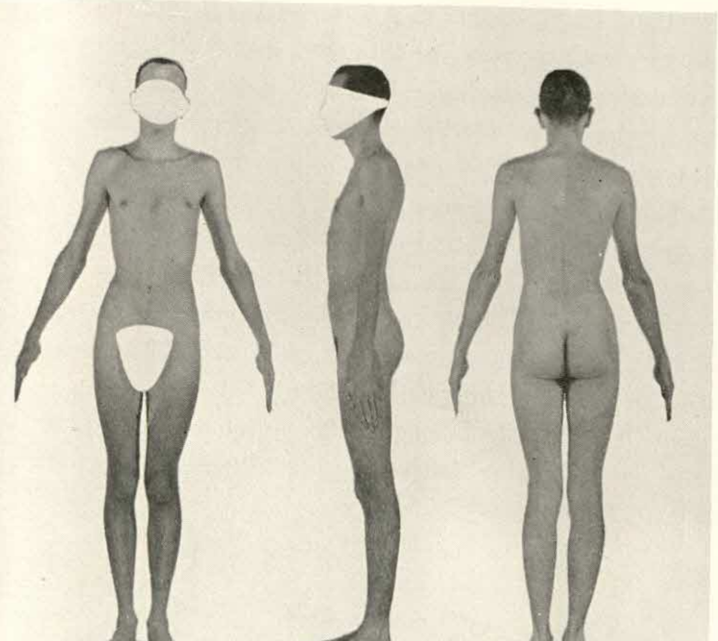


No. 142 *2 1 6* (*11*) 2 1 6–3 2 6 (2½ 1½ 6) 14.07 at 18
2½ 1½ 6, 2½ 1½ 6, 2½ 1½ 6, 2½ 1½ 6, 3 1½ 6

216

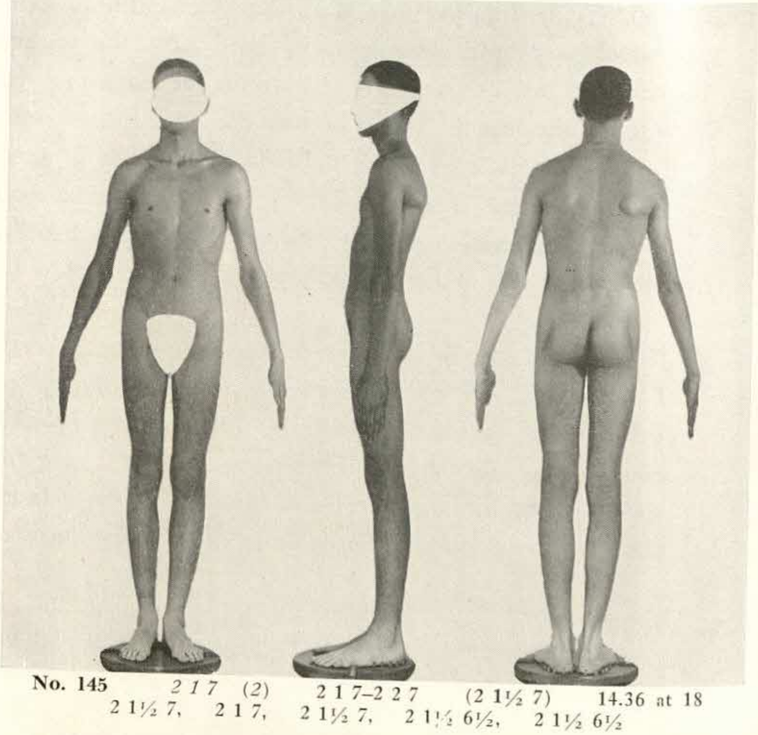


No. 143 *2 1 6* (*12*) 2 1 6–3 2 6 (2½ 1½ 6) 14.01 at 21
2½ 1½ 6, 2½ 1½ 6½, 2 1 6, 2½ 1½ 6, 2 2 6



No. 144 *2 1 7* (*1*) 2 1 7–2 1 7 14.39 at 23
2 1½ 7, 2 1 7, 2 1 7, 2 1 7, 2½ 1½ 6½

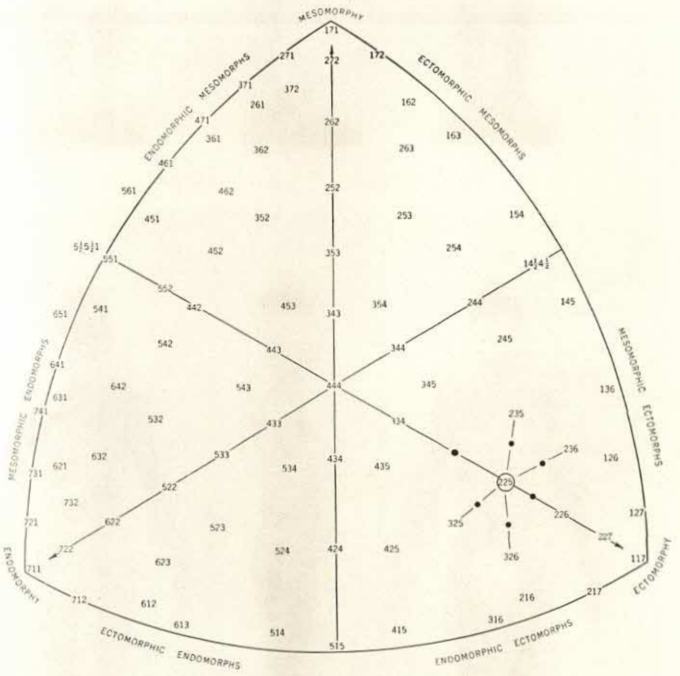
217

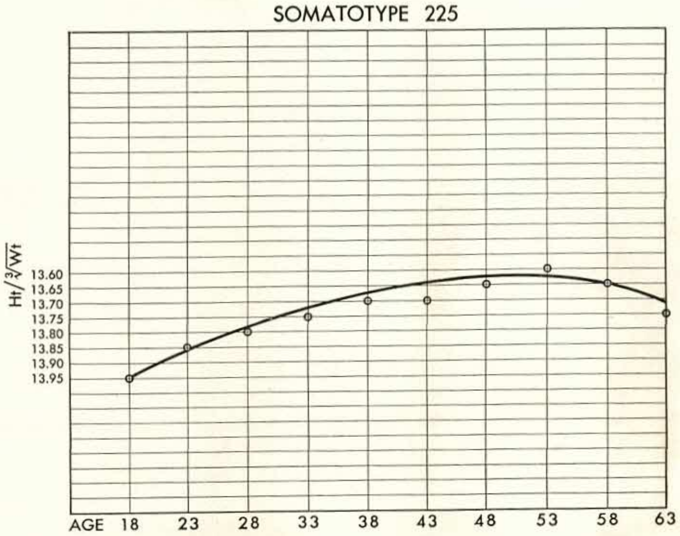


No. 145 *2 1 7* (*2*) 2 1 7–2 2 7 (2 1½ 7) 14.36 at 18
2 1½ 7, 2 1 7, 2 1½ 7, 2 1½ 6½, 2 1½ 6½

9. HERONS. CHAMPION EATERS WHO STAY LEAN

Somatotype 2 2 5 *(Balanced ectomorphy, 9-level.) The little green herons. Long-legged fishermen, intent on their fishing. About the size of pigeons, they fish in shallow water and they eat beyond belief but never grow fat. Nos. 150–166.*





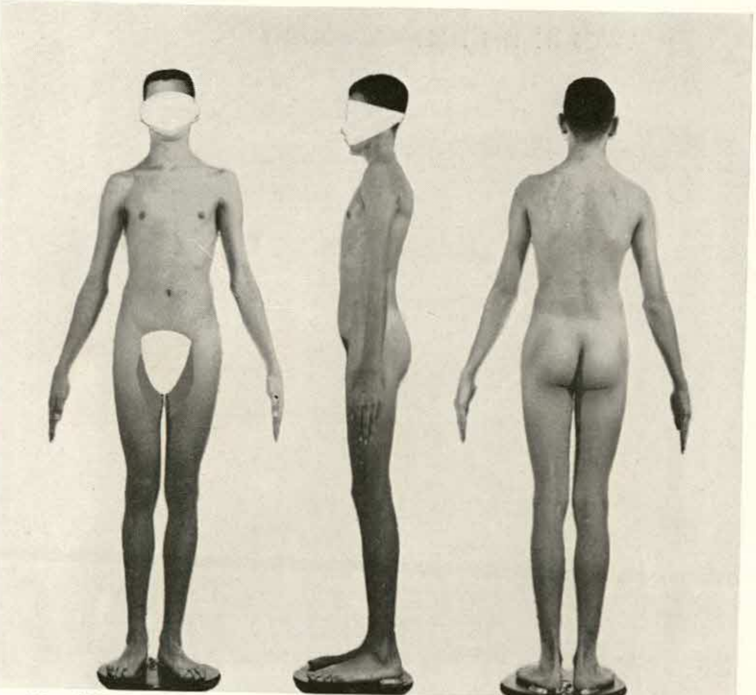
Weight for Age and Height

Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	156	158	160	162	163	164	165	167	166	162
74	150	151	154	156	157	158	159	161	160	156
73	143	145	147	149	150	151	152	153	153	149
72	137	140	141	143	144	145	146	147	147	143
71	132	134	135	137	138	139	140	141	141	137
70	126	129	130	131	132	133	134	136	135	131
69	121	123	125	126	127	128	129	130	129	126
68	116	118	119	120	121	122	123	125	124	120
67	111	113	114	115	116	117	118	119	118	115
66	106	108	109	110	111	112	112	113	113	110
65	101	103	104	105	106	107	108	108	108	105
64	96	98	99	100	101	102	103	103	103	100
63	92	94	95	95	96	97	98	99	98	95
62	88	89	90	91	92	93	93	94	94	91
61	84	85	86	87	88	88	89	89	89	87

Rarity 4. Incidence 3 per thousand. This is often a little fellow, both slender and short, and he is nearly always so inept at the conventional patterns of youthful masculine competition, particularly the athletic exercises, that these competitions are for him a world apart. He seems largely unaware of them, as little girls are unaware of the things that are supposed to interest little boys. In consequence, the 2 2 5 tends to be free from the distractions and frustrations encountered by those slightly more mesomorphic ectomorphs who try in vain to compete with sturdier contemporaries. When the 2 2 5 is mentally or otherwise gifted he is therefore disposed to develop his gifts and he not infrequently achieves scholastic brilliance. It would be a good guess that if the entire male population holding membership in Phi Beta Kappa were to be somatotyped, the little 2 2 5 would be found to be disproportionately represented (see page 258). It may even be possible that this somatotype achieves mental distinction as frequently, in proportion to its numbers, as it fills the beds of the mental hospitals.

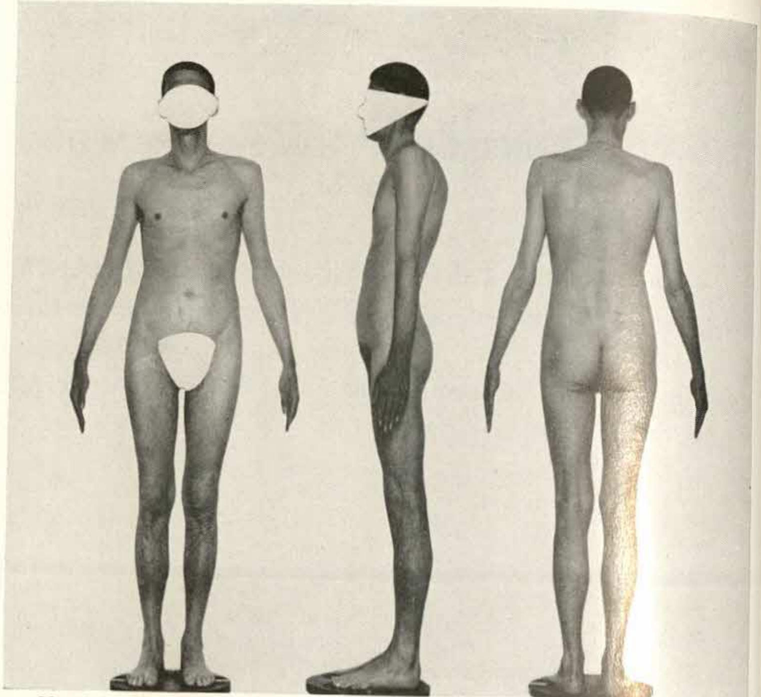
In one study at the Elgin State Hospital in Illinois, in 1945, we found 26 2 2 5's among 562 schizophrenic male patients. Nineteen of the 26 were diagnosed *hebephrenic schizophrenia.* In that particular psychotic population the incidence of 2 2 5's was 46 per thousand, or a little greater than fifteen times the incidence found in our general sample. But the 2 2 5 also does well in the colleges (see p. 258).

The nutrition curve indicates that this somatotype reaches its maximal weight rather slowly, or that it matures late, but then fades rapidly. Its excessive appetite, especially for meat, and its capacity for eating without gaining weight, has probably from time immemorial been a source of wonder and awe to those who feed the men-stock.

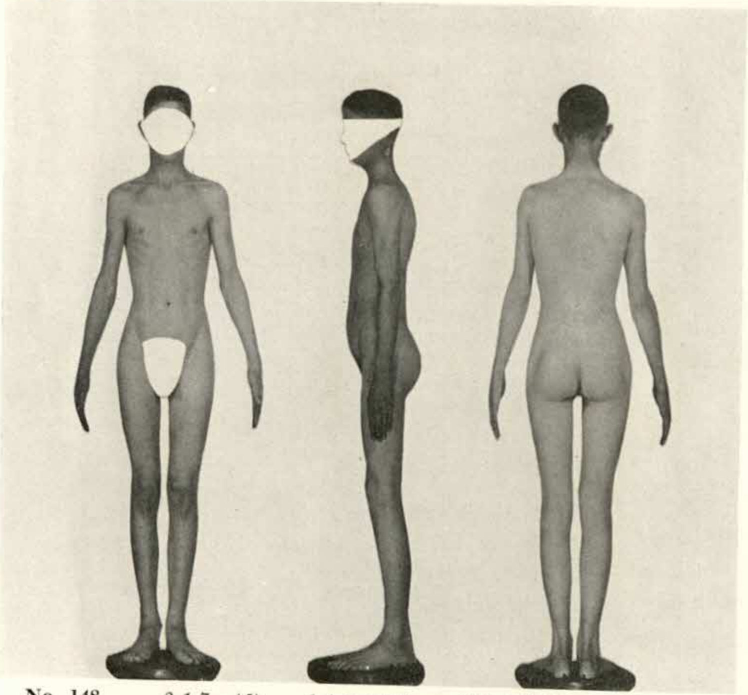


No. 146 *2 1 7* (*3*) 2 1 7–2 2 7 (2 1½ 7) 14.35 at 19
2 1½ 7, 2 1½ 6½, 2 1 7, 2 1½ 7, 2½ 1½ 7

217

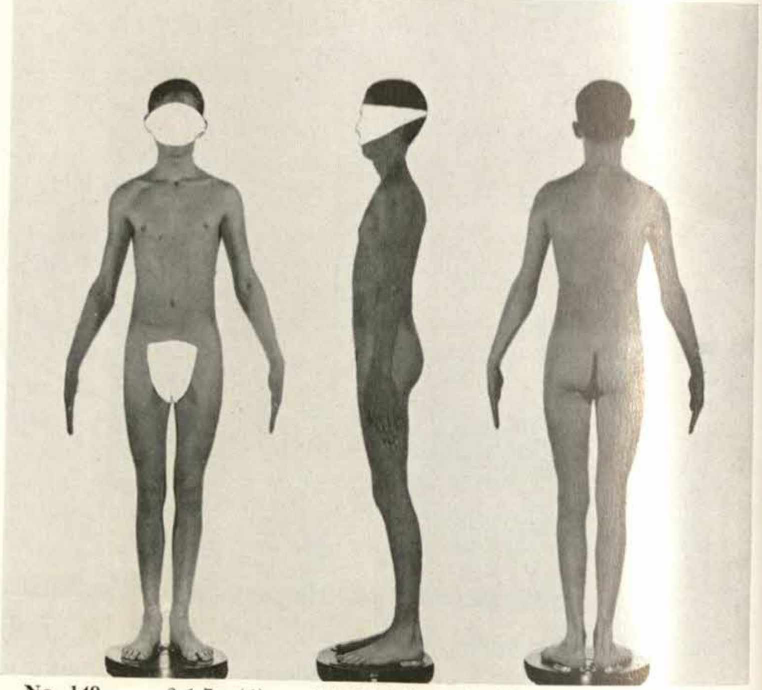


No. 147 *2 1 7* (*4*) 2 1 7–2 2 7 (2 1½ 7) 14.18 at 43
1½ 1½ 7, 2 1 7, 2 1 7, 2 1½ 6½, 2 2 6

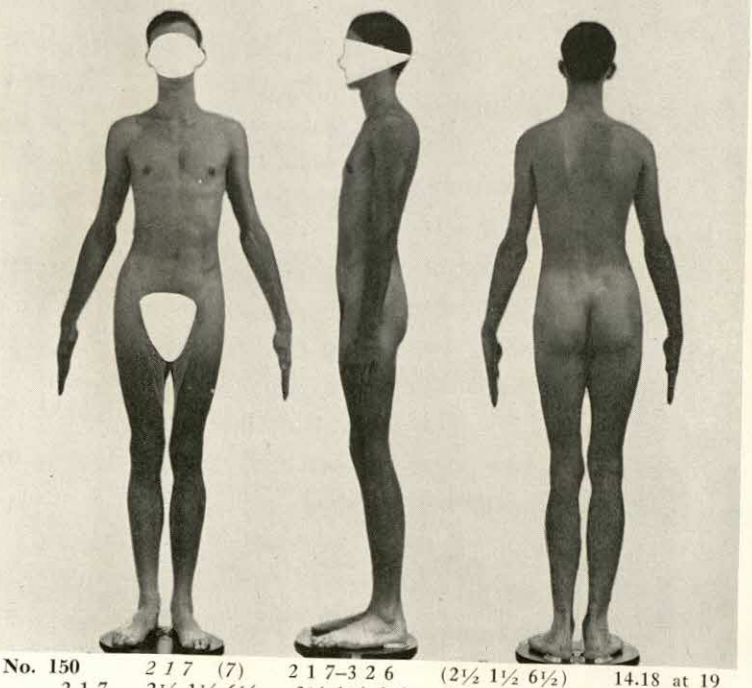


No. 148 *2 1 7* (*5*) 2 1 7–3 1 6 (2½ 1 6½) 14.24 at 19
2½ 1 6½, 2 1 7, 2½ 1 6½, 2½ 1 6½, 2½ 1 6½

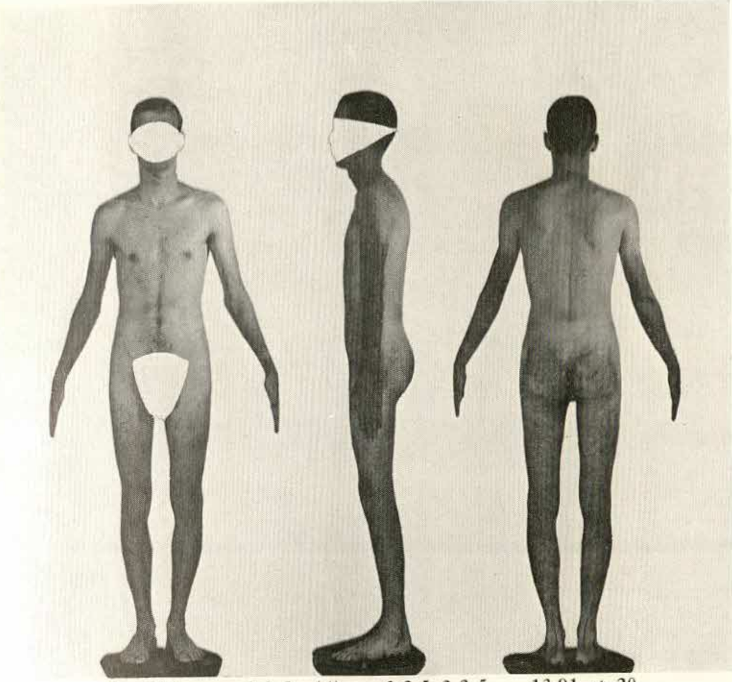
217



No. 149 *2 1 7* (*6*) 2 1 7–3 1 6 (2½ 1 6½) 14.23 at 19
2½ 1½ 6½, 2 1½ 6½, 2½ 1 6½, 2½ 1 6½, 2½ 1 6½

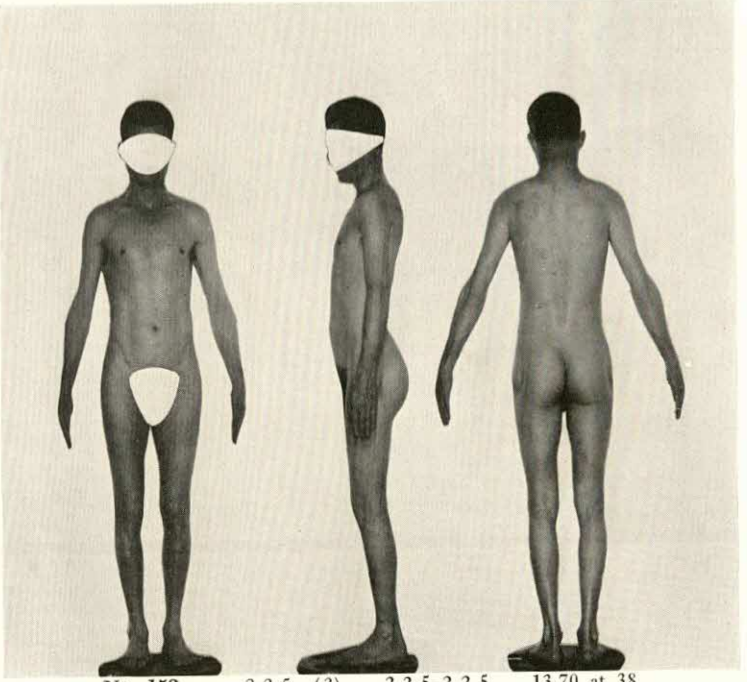


No. 150 *2 1 7* (*7*) 2 1 7–3 2 6 (2½ 1½ 6½) 14.18 at 19
2 1 7, 2½ 1½ 6½, 2½ 1½ 6½, 2½ 1 7, 2½ 1½ 6½

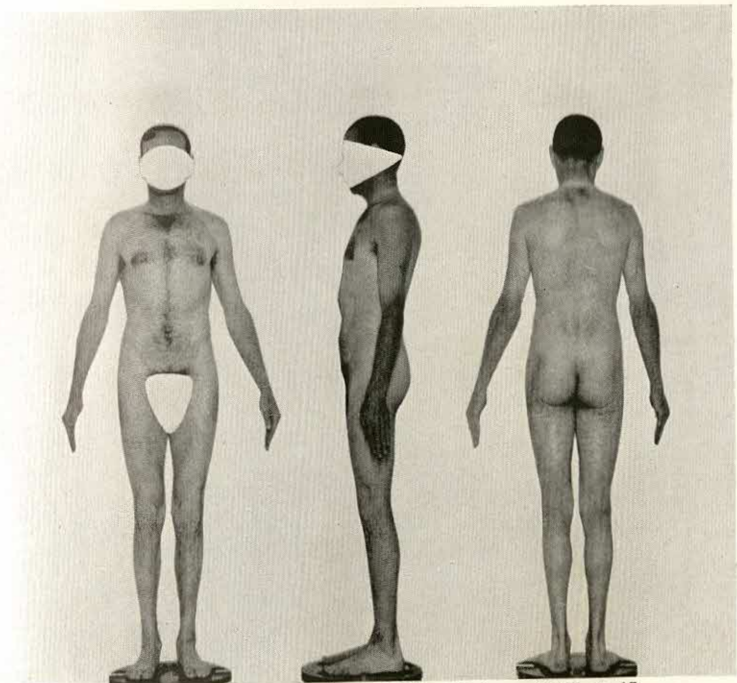


No. 151 *2 2 5* (*1*) 2 2 5–2 2 5 13.91 at 20
2½ 3 4½, 2 2 5½, 2 1½ 5½, 2½ 1½ 5, 2 2 5

225

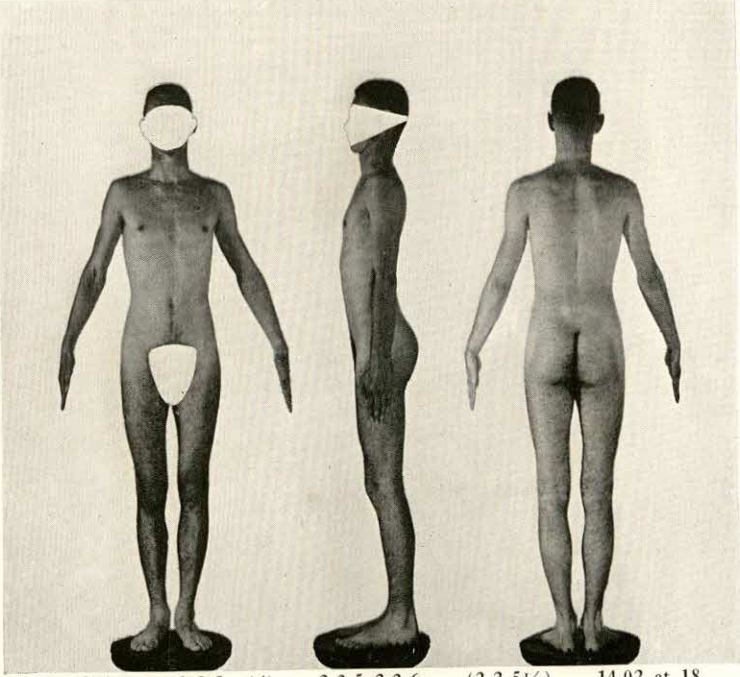


No. 152 *2 2 5* (*2*) 2 2 5–2 2 5 13.70 at 38
2 2½ 5, 2 2 5, 2 1½ 5½, 2 2 5, 2 2 5

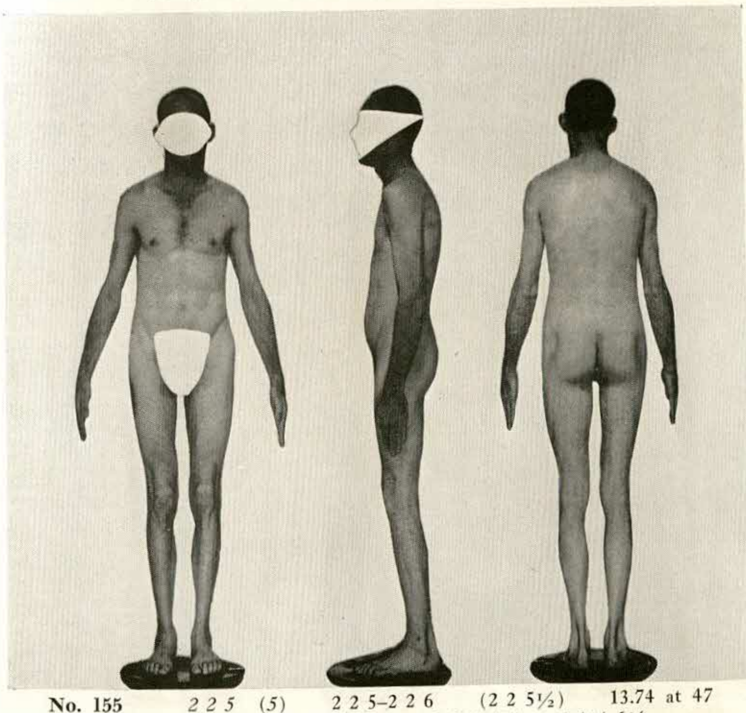


No. 153 *2 2 5* (*3*) 2 2 5 –2 2 5 13.67 at 47
2½ 2½ 5, 2 2 5, 2 2 5, 2 2 5, 2 1½ 5½

225

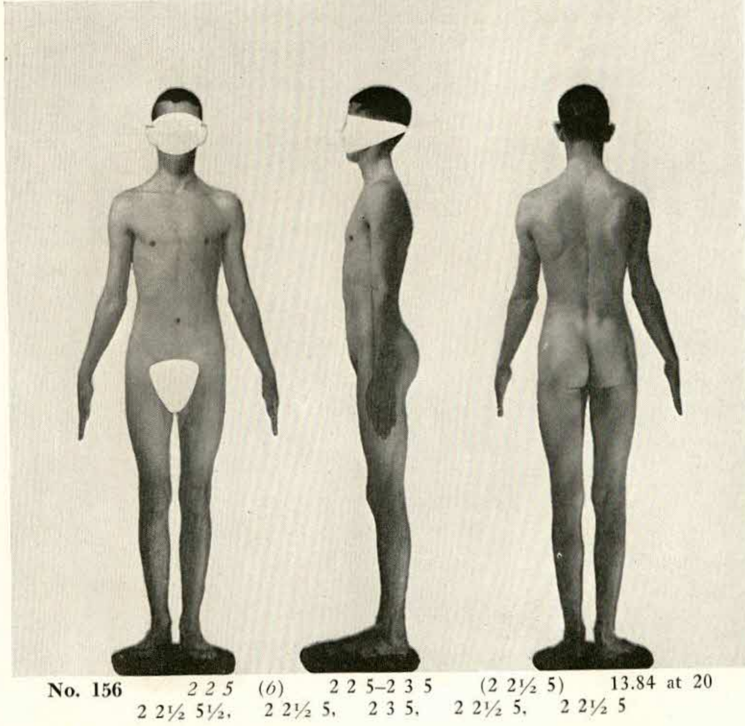


No. 154 *2 2 5* (*4*) 2 2 5–2 2 6 (2 2 5½) 14.02 at 18
2 2 5½, 2 2 5½, 2 2 5, 2 2 5½, 2 2 5½

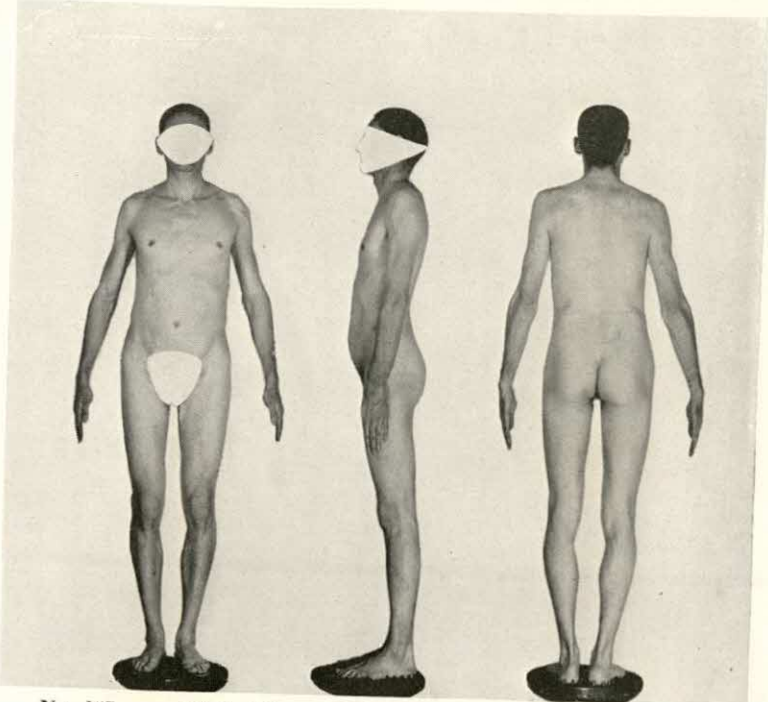


No. 155 *2 2 5* (*5*) 2 2 5–2 2 6 (2 2 5½) 13.74 at 47
2 3 5, 2 1½ 5½, 2 2 5½, 2 1½ 5½, 2 1½ 6½

225

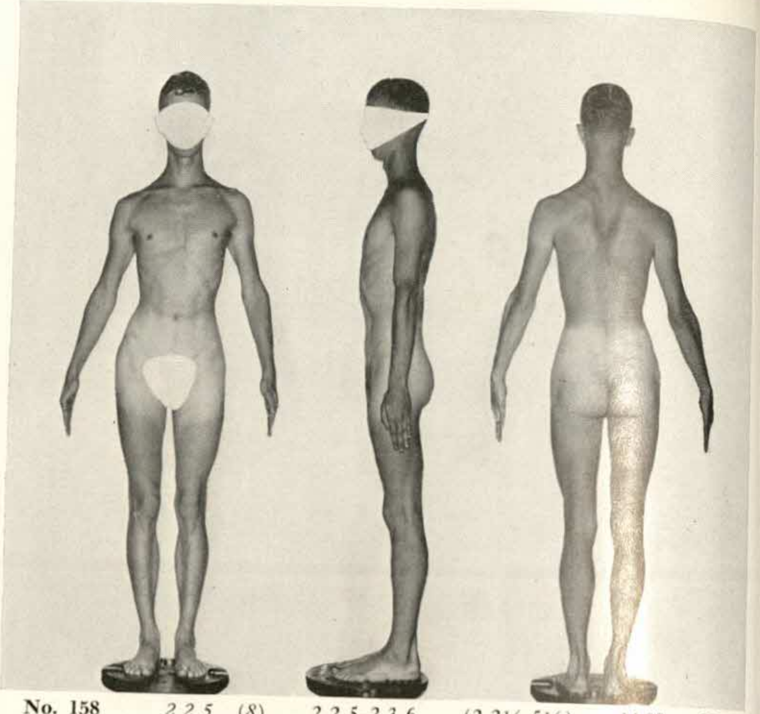


No. 156 *2 2 5* (*6*) 2 2 5–2 3 5 (2 2½ 5) 13.84 at 20
2 2½ 5½, 2 2½ 5, 2 3 5, 2 2½ 5, 2 2½ 5

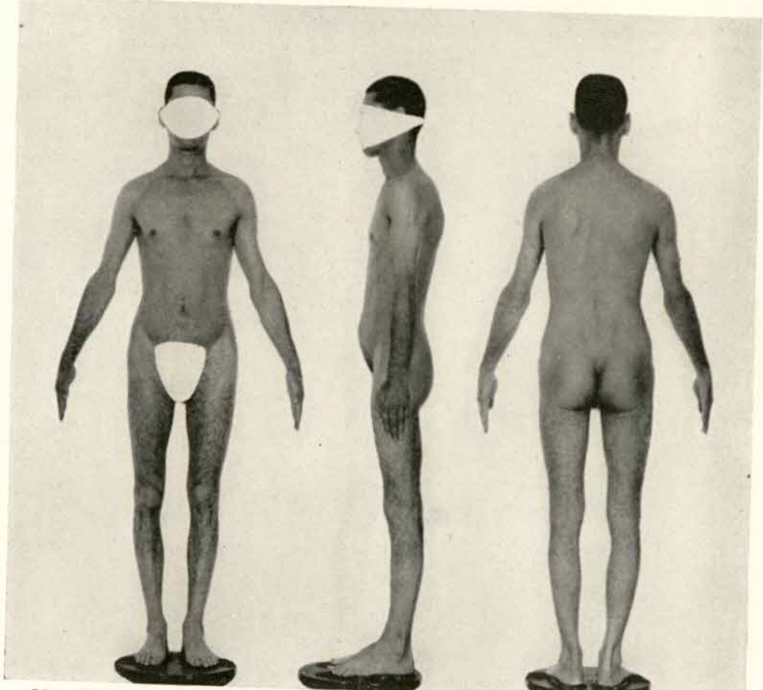


No. 157 *2 2 5* (*7*) 2 2 5–2 3 5 (2 2½ 5) 13.63 at 39
2 2½ 5, 2 2½ 5, 2 2½ 5, 2 2 5½, 2 3 5

225

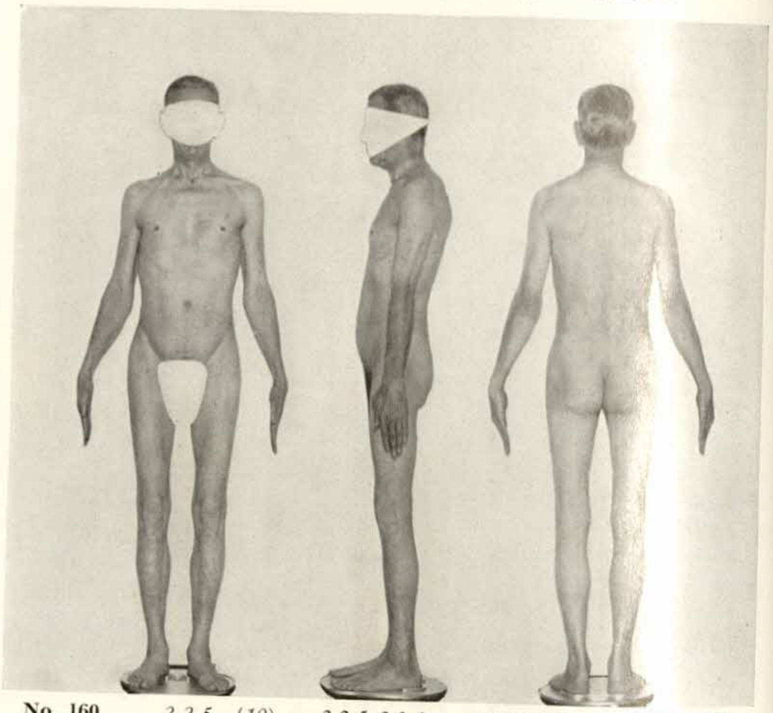


No. 158 *2 2 5* (*8*) 2 2 5–2 3 6 (2 2½ 5½) 13.88 at 23
2 2 6, 2 3 5, 2 2½ 5½, 2½ 2½ 5½, 2½ 3½ 5

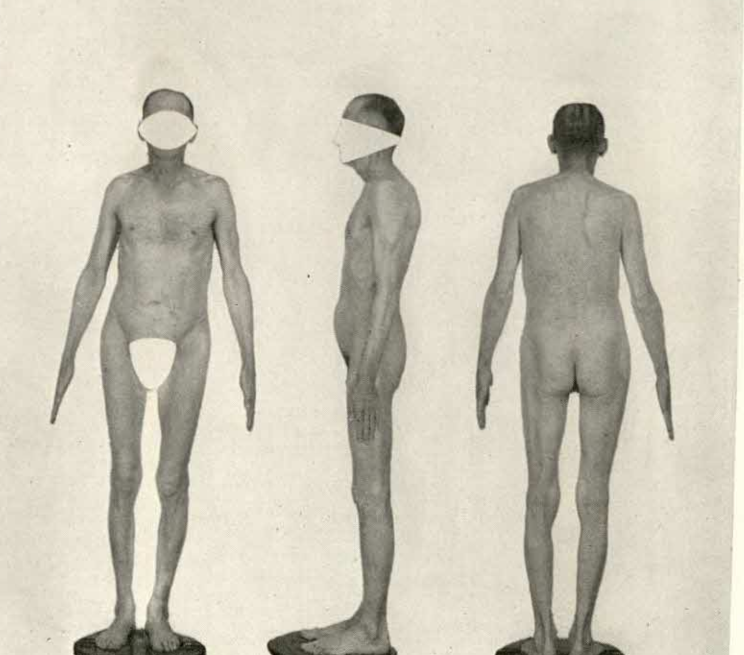


No. 159 *2 2 5* (*9*) 2 2 5–2 3 6 (2 2½ 5½) 13.72 at 38
2 3 5½, 2 2½ 5½, 2 2½ 5, 2 2½ 5½, 2 2½ 5½

225

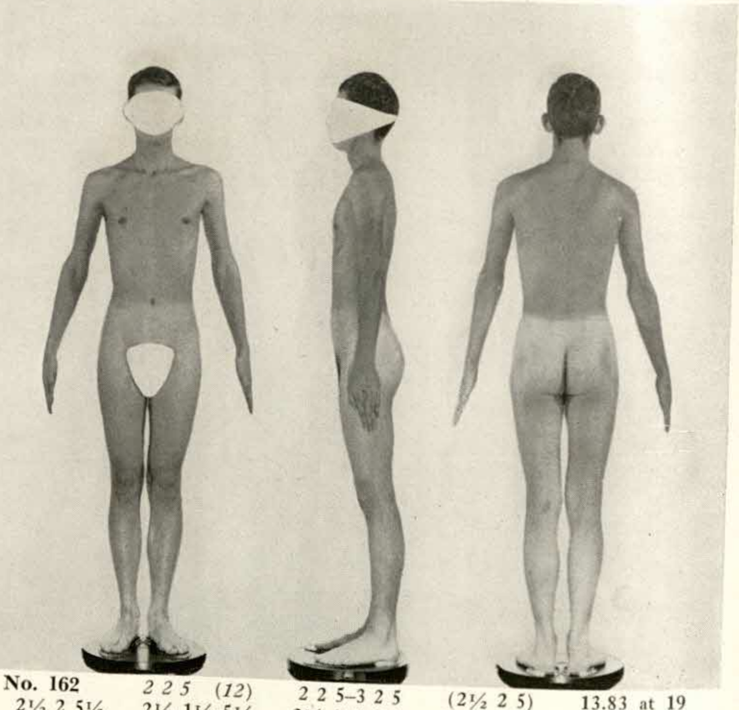


No. 160 *2 2 5* (*10*) 2 2 5–2 3 6 (2 2½ 5½) 13.68 at 58
2 3 5½, 2 2½ 5½, 2 3 5, 2 2½ 5½, 1½ 2 5½



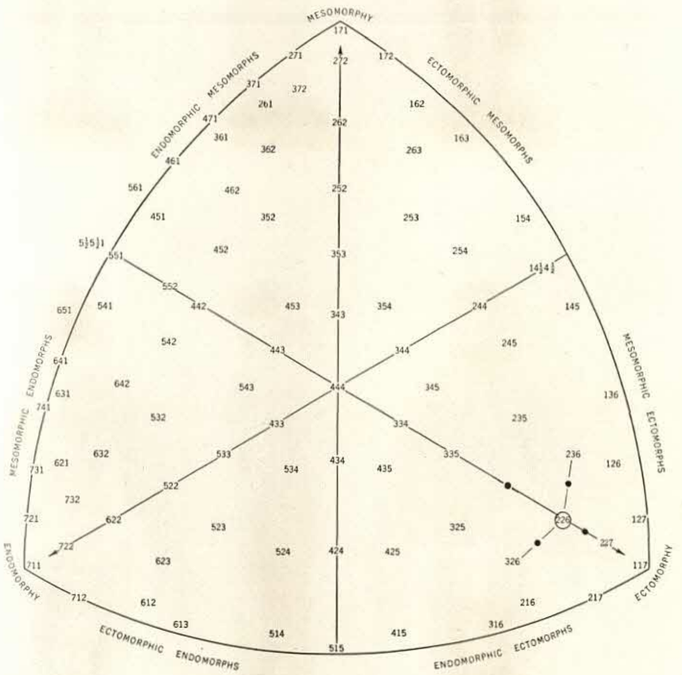
No. 161 *2 2 5* (*11*) 2 2 5–2 3 6 (2 2½ 5½) 13.71 at 66
2 2½ 5, 2 2½ 5½, 1½ 2 6, 2 2½ 5½, 1½ 2 6

225



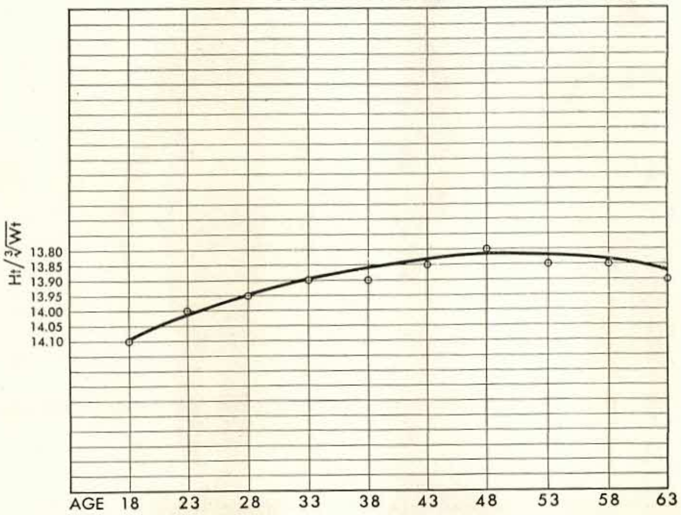
No. 162 *2 2 5* (*12*) 2 2 5–3 2 5 (2½ 2 5) 13.83 at 19
2½ 2 5½, 2½ 1½ 5½, 2½ 1½ 5½, 2½ 2 5, 2½ 2½ 4½

Somatotype 2 2 6 *(Balanced extreme ectomorphy, 10-level.) The big night herons. Still longer-legged fishermen who wade in deeper water, eat all day and half the night but gain no weight. The whooping crane, perhaps another 2 2 6, puts on a little fat during his middle age. Nos. 167–177.*



Rarity 2. Incidence 12 per thousand. Here for the first time we encounter a somatotype common enough to include more than 1 per cent of the male population. This and the 2 3 6 are by far the commonest extreme ectomorphs. Together the two make up nearly 3 per cent of the men of the United States, and if our data from this pilot study are approximately correct there are somewhat more than two million men and boys of these two somatotypes in the country. Of these, nearly 900,000 should be 2 2 6's. Yet if a football team were to be recruited from this 900,000, and if the team were to play one of the women's colleges, it might be a good idea to bet on the latter. In a track meet it would be a different story, and the boys would undoubtedly win.

SOMATOTYPE 226



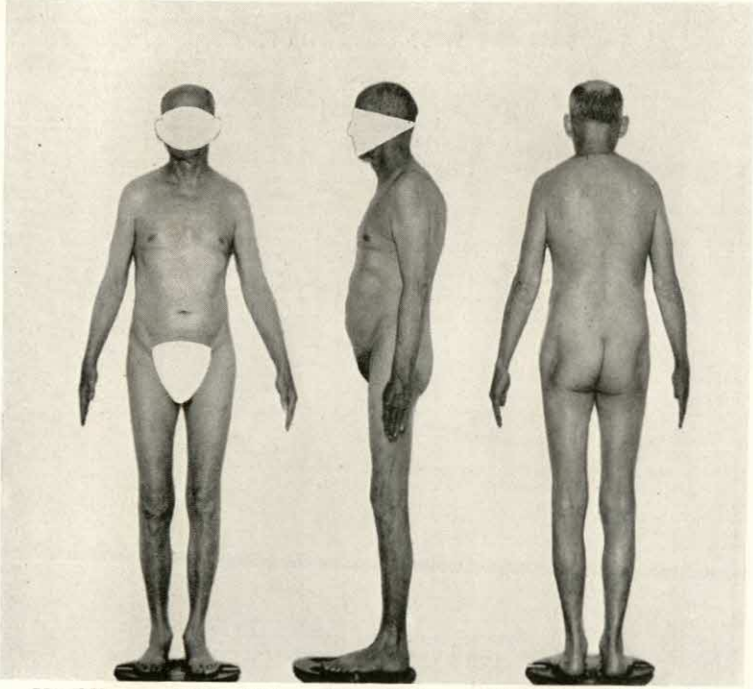
Weight for Age and Height

Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	151	153	155	156	157	158	160	159	158	157
74	145	146	148	149	151	152	153	153	152	151
73	139	140	142	143	144	145	146	146	145	144
72	133	135	136	137	139	140	141	140	140	139
71	128	130	131	132	133	134	135	134	134	133
70	123	124	125	127	128	129	130	129	129	128
69	118	119	120	121	122	123	124	124	123	122
68	113	114	115	116	117	118	119	118	118	117
67	108	109	110	111	112	113	114	113	113	112
66	103	104	105	106	107	108	109	108	108	107
65	98	99	100	101	102	103	104	103	103	102
64	93	94	96	97	97	98	99	98	98	97
63	89	90	91	92	93	94	94	94	94	93
62	86	87	87	88	89	89	90	90	89	89
61	81	82	83	84	85	85	86	86	85	85

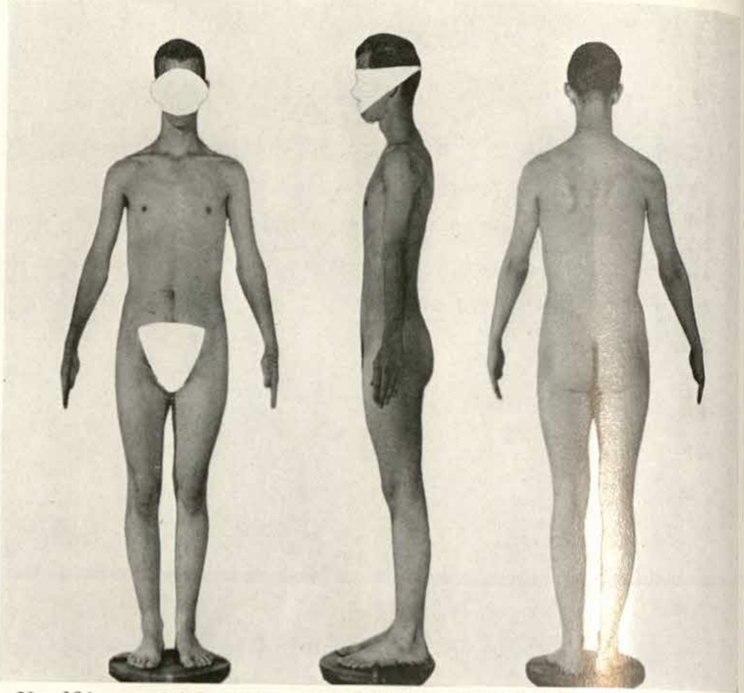
At average male stature the 2 2 6 typically gains about six pounds during the course of adult life, and although it is not a particularly short lived somatotype, some degree of fading away of this weight appears to be characteristic of the sixth and seventh decades. Certainly those 2 2 6's who live on into the eighth and ninth decades tend to jettison weight in the process of doing so.

Nutritionally, the 2 2 6 follows the pattern of all the ectomorphs who are endopenic and seems to need protein both acutely and continuously. These ectomorphic people have small stomachs and short intestines (see VHP, p. 33). It may be that they require food already built up into the complex protein structure. They usually prefer frequent, relatively small meals to heavy feasts, and many of them learn to eat five or more times a day instead of the conventional three meals.

225

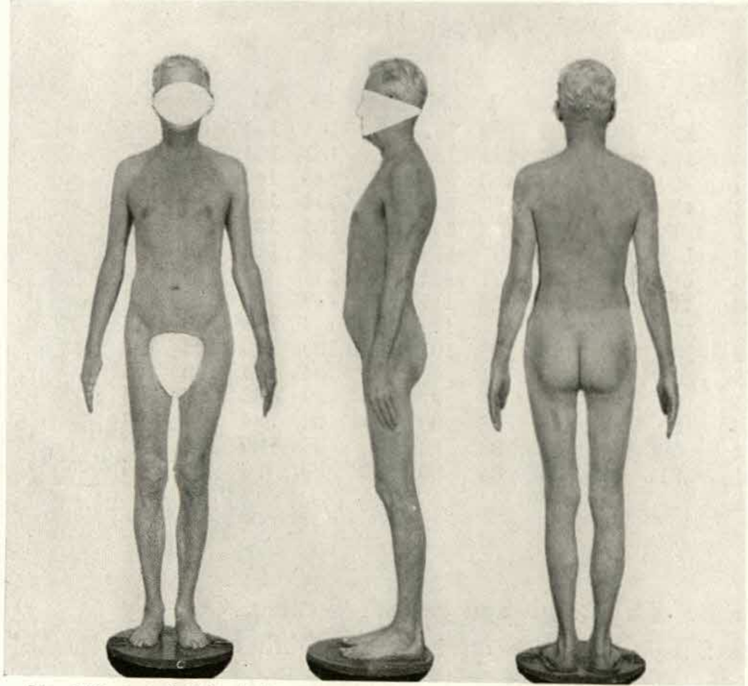


No. 163 *2 2 5* (*13*) 2 2 5–3 2 5 (2½ 2 5) 13.62 at 62
2½ 2½ 4½, 2½ 2½ 4½, 2½ 2½ 4½, 2½ 2 5, 2 1½ 5½

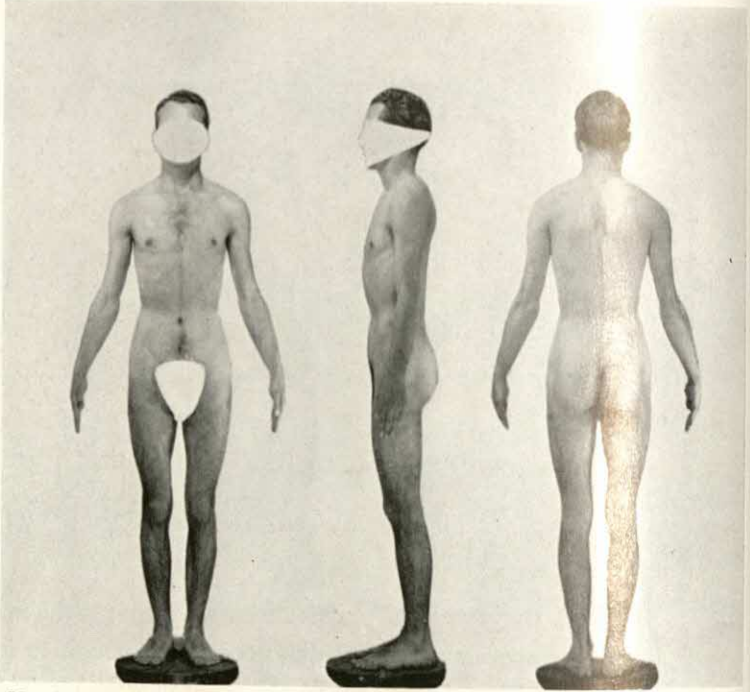


No. 164 *2 2 5* (*14*) 2 2 5–3 2 6 (2½ 2 5½) 13.91 at 19
1½ 2 6½, 2 1½ 5½, 2 1½ 5½, 3 2 5½, 3½ 2 4½

225

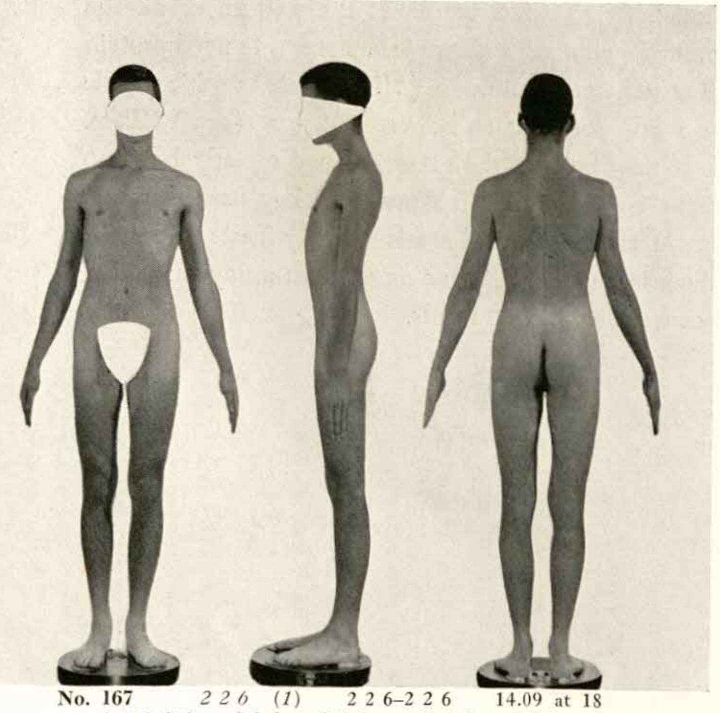


No. 165 *2 2 5* (*15*) 2 2 5–3 2 6 (2½ 2 5½) 13.63 at 44
2½ 2½ 5½, 2½ 2 5½, 2½ 2 5½, 2½ 2 5½, 2½ 1½ 5½

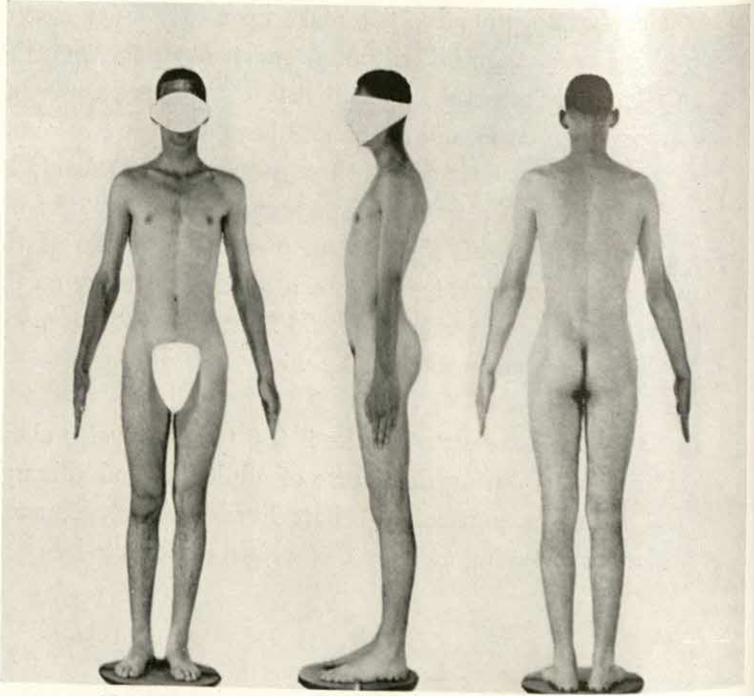


No. 166 *2 2 5* (*16*) 2 2 5–3 3 4 (2½ 2½ 4½) 13.61 at 24
2½ 3 4½, 2½ 2½ 4½, 2½ 2½ 4½, 2½ 2½ 5, 2½ 2½ 4½

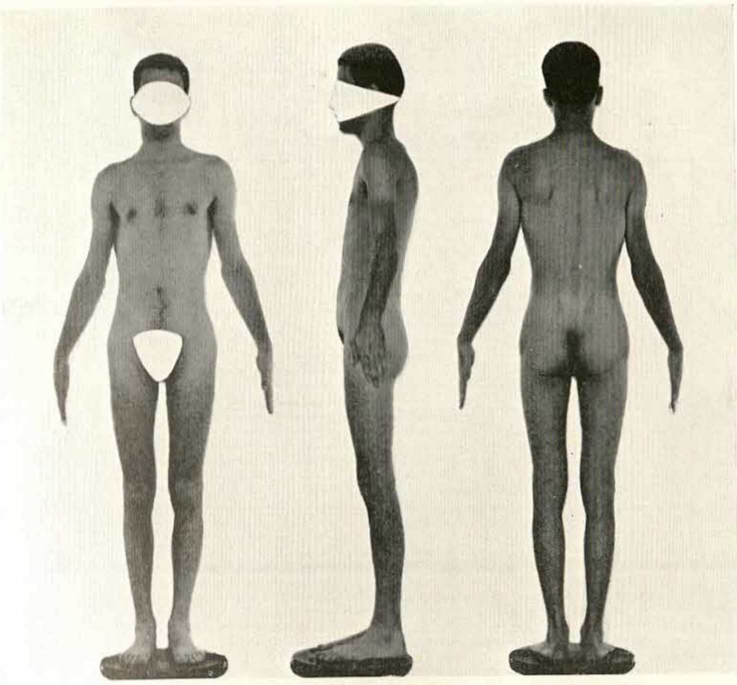
226



No. 167 *2 2 6* (*1*) 2 2 6–2 2 6 14.09 at 18
2 1½ 6½, 2 2 6, 2 2 6, 2 1½ 6, 2 2 6

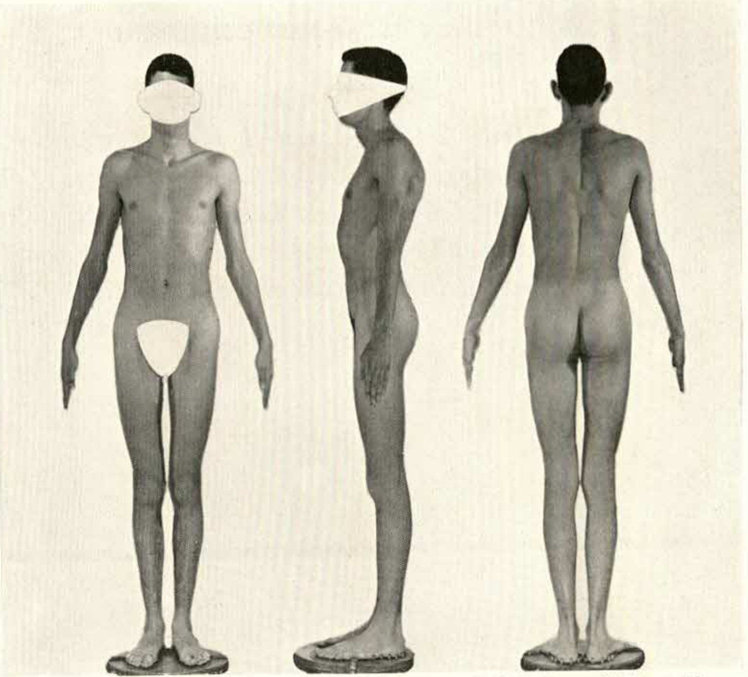


No. 168 *2 2 6* (*2*) 2 2 6–2 2 6 14.06 at 20
2 2 6, 1½ 2 6, 1½ 2½ 6, 2 2 6, 2½ 2 6

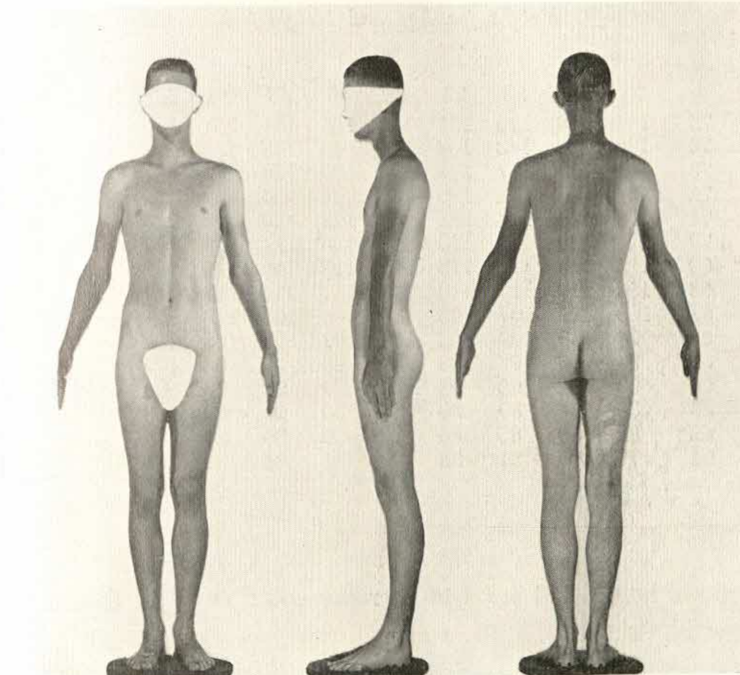


No. 169 *2 2 6* (*3*) 2 2 6–2 2 6 13.89 at 35
2½ 2½ 5½, 2 2 6, 1½ 1½ 5½, 2 2 6, 2 1½ 6

226

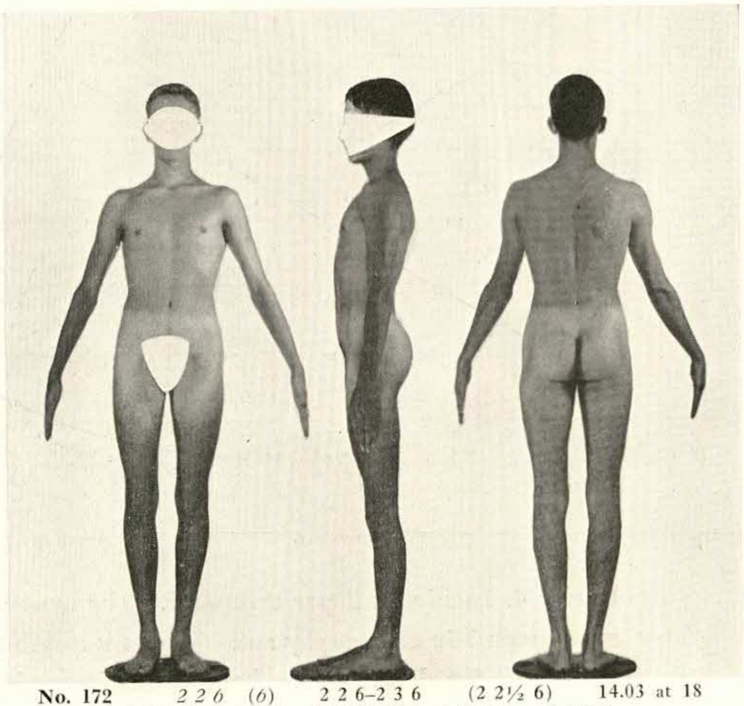


No. 170 *2 2 6* (*4*) 2 2 6–2 2 7 (2 2 6½) 14.23 at 18
2 2 6½, 1½ 2½ 6½, 2 1½ 6½, 2 2 6½, 2 1½ 7

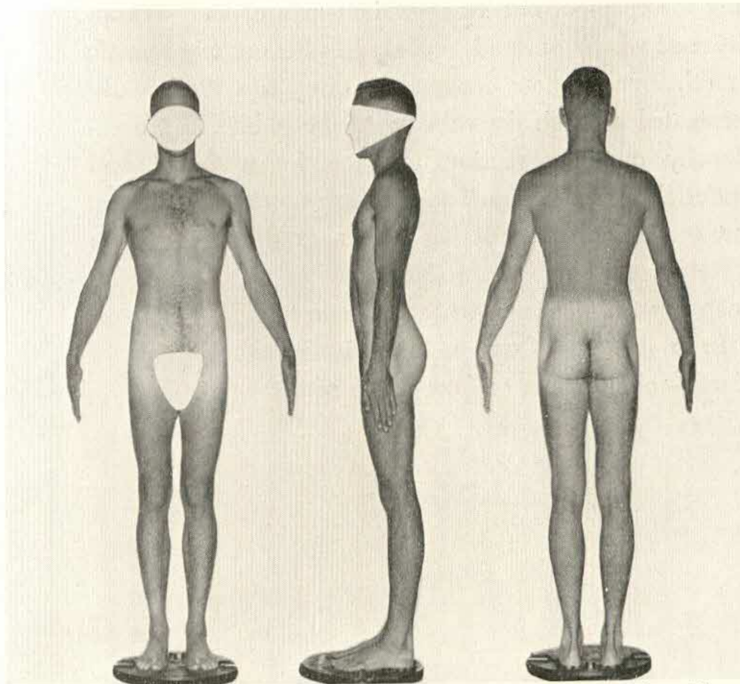


No. 171 *2 2 6* (5) 2 2 6–2 2 7 (2 2 6½) 14.20 at 19
2 1½ 7, 2 2 6½, 2 2½ 6, 2 2 6½, 3 2½ 5½

226

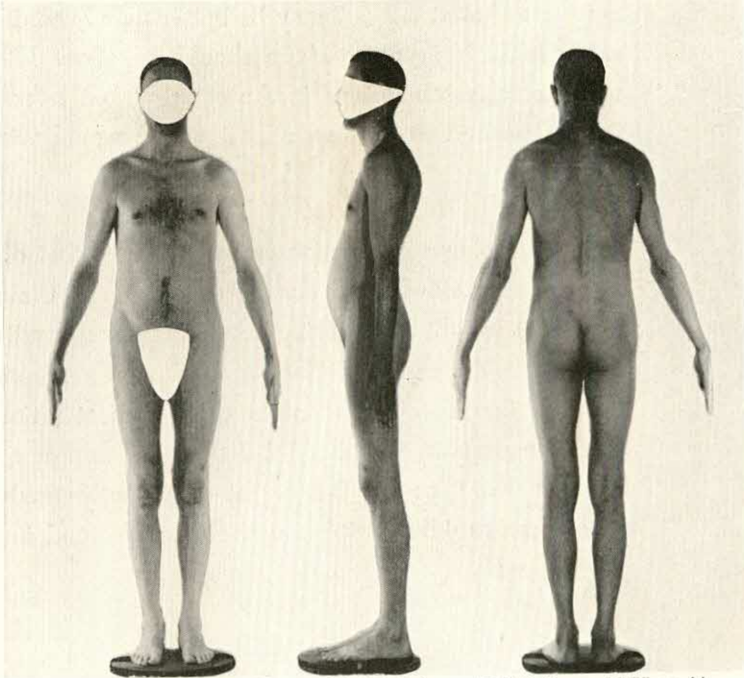


No. 172 *2 2 6* (*6*) 2 2 6–2 3 6 (2 2½ 6) 14.03 at 18
2 2½ 6, 2 3 5, 1½ 2½ 6, 2 3 5½, 2 2 6½



No. 173 *2 2 6* (7) 2 2 6–2 3 6 (2 2½ 6) 13.92 at 24
2 2½ 6, 2 2½ 6, 2 3 5½, 2 2½ 6½, 2 2½ 6

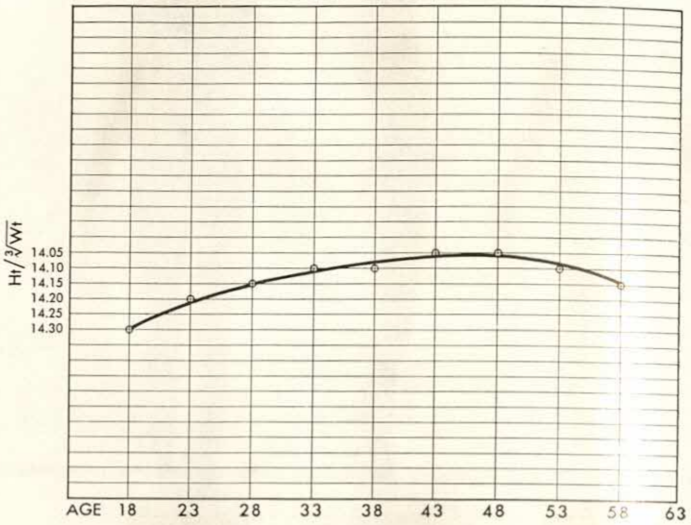
226

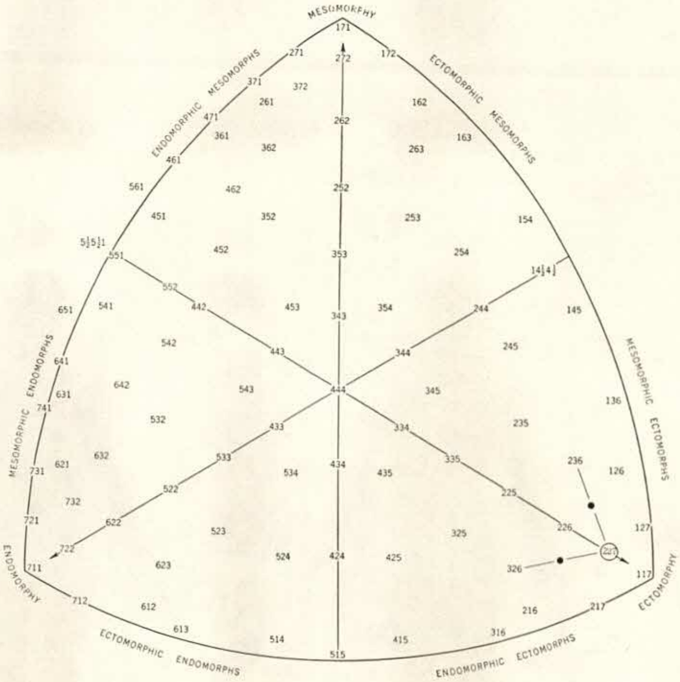


No. 174 *2 2 6* (*8*) 2 2 6–2 3 6 (2 2½ 6) 13.77 at 44
2 3½ 5½, 2 2 6, 2 2 6½, 2½ 2½ 6, 2½ 2 5½

Somatotype 2 2 7 *(Balanced polar ectomorphy, 11-level.) The great blue herons. Lean, long-legged fellows, larger and taller than night herons. They wade in water really deep and can eat twice their weight of meat (fish) in a day. But herons never get fat. Nos. 178–186.*

SOMATOTYPE 227





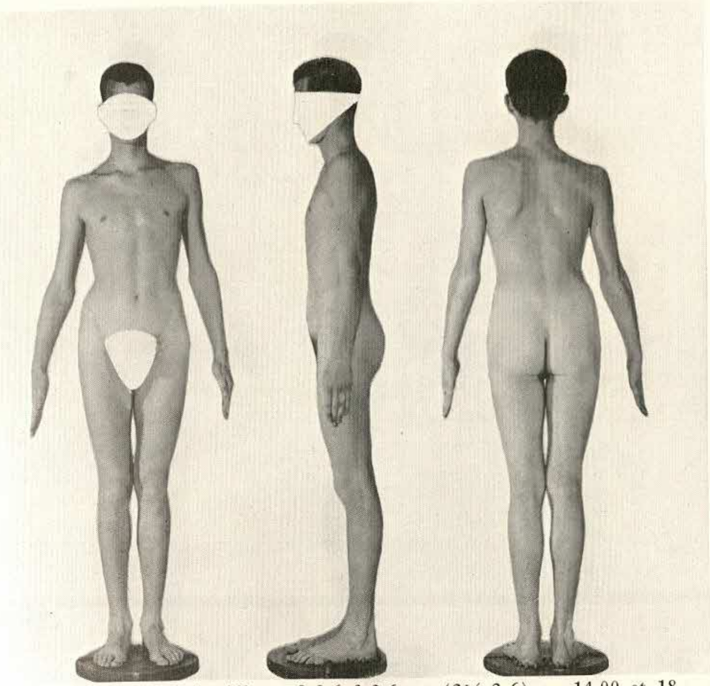
Weight for Age and Height

Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	144	146	149	151	151	151	151	151	149	..
74	138	140	143	144	144	145	145	144	143	..
73	133	134	137	139	139	139	139	139	137	..
72	127	129	132	133	133	134	134	133	132	..
71	122	124	127	128	128	129	129	128	127	..
70	117	119	122	123	123	124	124	123	122	..
69	112	115	117	118	118	119	119	118	117	..
68	108	110	112	113	113	114	114	113	112	..
67	103	105	107	108	108	108	108	108	107	..
66	98	100	102	103	103	103	103	103	102	..
65	94	96	97	98	98	99	99	98	97	..
64	90	91	93	93	93	94	94	93	93	..
63	86	87	89	89	89	90	90	89	89	..
62	82	83	85	86	86	86	86	86	85	..
61	78	79	81	82	82	82	82	82	81	..

Rarity 4. Incidence 2 per thousand. The most commonly seen 7 in ectomorphy and 10 times less rare than the 1 1 7. Set decoys for an hour in the Pennsylvania Station waiting room in New York, and your chances of getting a shot at a 2 2 7 may be better than even. If our rarity scale is accurate, there should be about 150,000 males of this somatotype in the country, but a football team recruited from them almost surely would win no games.

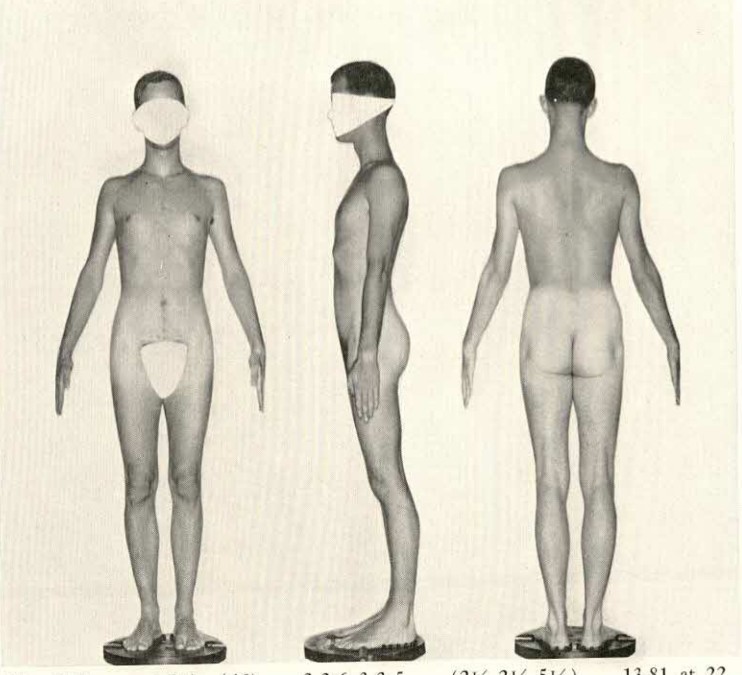
The 2 2 7 shows a nutrition curve similar to that of the 2 2 6, rising slowly and curling off a little at the end. The total weight gain during adult life is comparatively little (as is the case with the herons), despite a reported appetite for protein that might drive a meat rationing board to despair. But the 2 2 7 does not appear to be as long lived as the 2 2 6. He apparently tends to fade more rapidly during the sixth decade, and in our sample he did not seem to be represented at all in the seventh decade.

It is now conventional in some academic circles to assume that the curve of nutrition—weight gain or loss—is conditioned wholly on food intake, regardless of any genetic or other endogenous factor, and often this idea is disseminated through the colleges to the public. But occasionally an unsuspecting girl marries a 2 2 7 and undertakes to feed him. The ensuing experience may turn out to be more instructive than a graduate course in dietetics. Another instructive thing is to keep a pet blue heron, whose favorite food is fresh, live trout from six to ten inches in length—about three or four dozen of these a day.

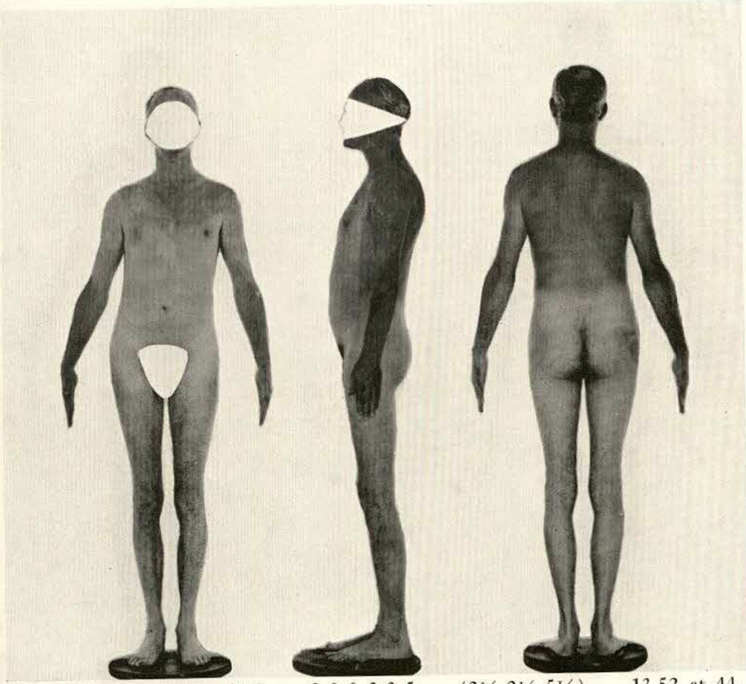


No. 175 *2 2 6 (9)* 2 2 6–3 2 6 (2½ 2 6) 14.00 at 18
2½ 2 6, 2½ 2½ 6, 2½ 2 6, 2½ 2 5½, 3 2 6

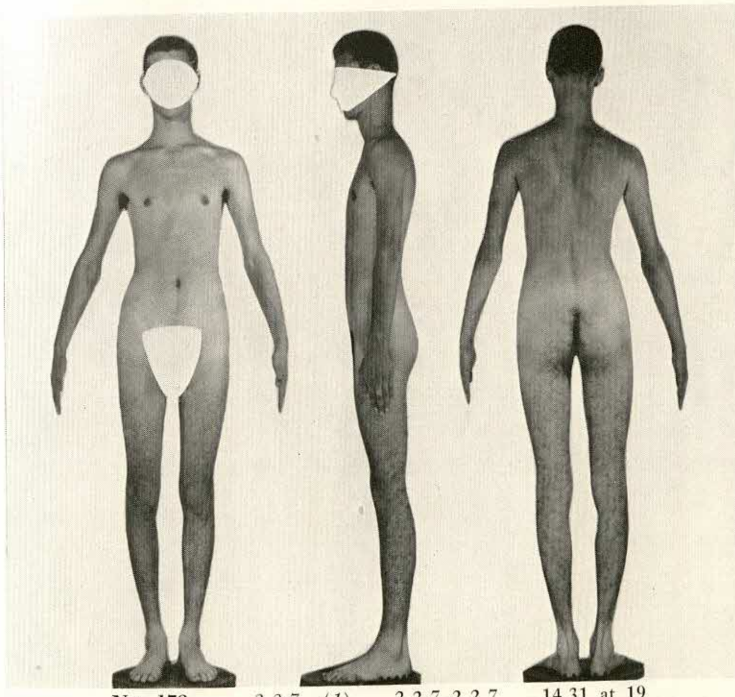
226



No. 176 *2 2 6 (10)* 2 2 6–3 3 5 (2½ 2½ 5½) 13.81 at 22
2½ 2 6, 2½ 2½ 5½, 2½ 2 5½, 2½ 2½ 5½, 2½ 2½ 5½

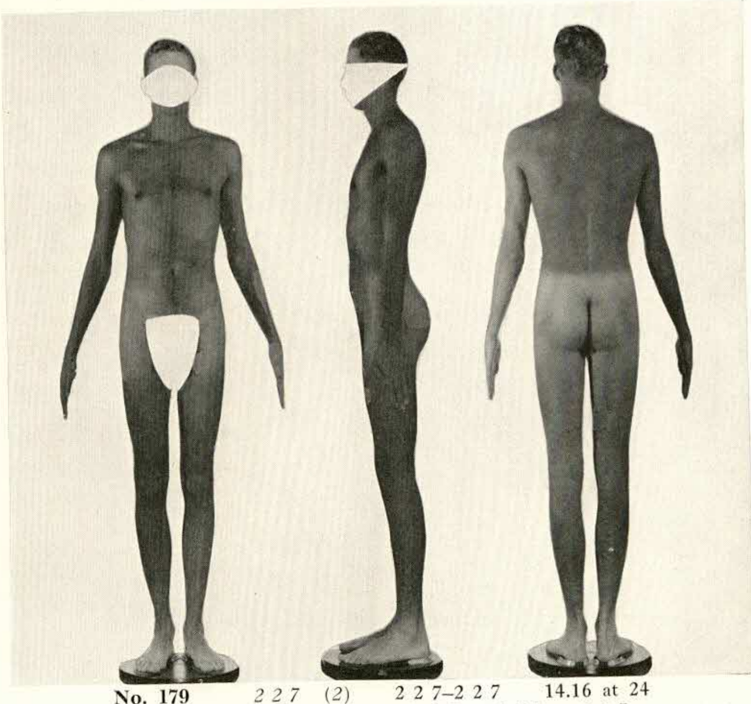


No. 177 *2 2 6 (11)* 2 2 6–3 3 5 (2½ 2½ 5½) 13.52 at 44
2½ 2½ 5½, 2½ 3 5, 2½ 2 5, 3 2½ 5, 2½ 1½ 6

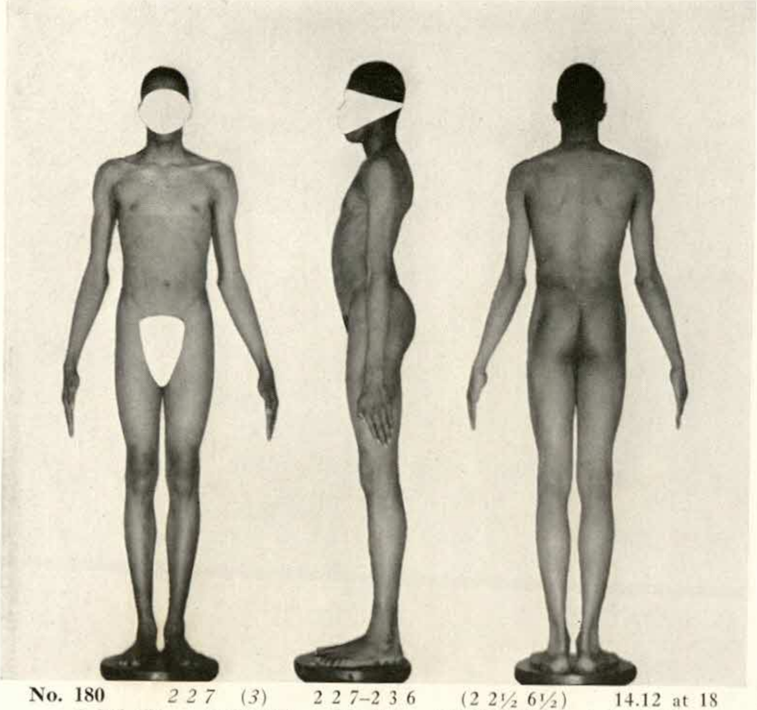


No. 178 *2 2 7 (1)* 2 2 7–2 2 7 14.31 at 19
2 2 7, 2 1½ 7, 2 1½ 6½, 2 2 6½, 2 2 7

227

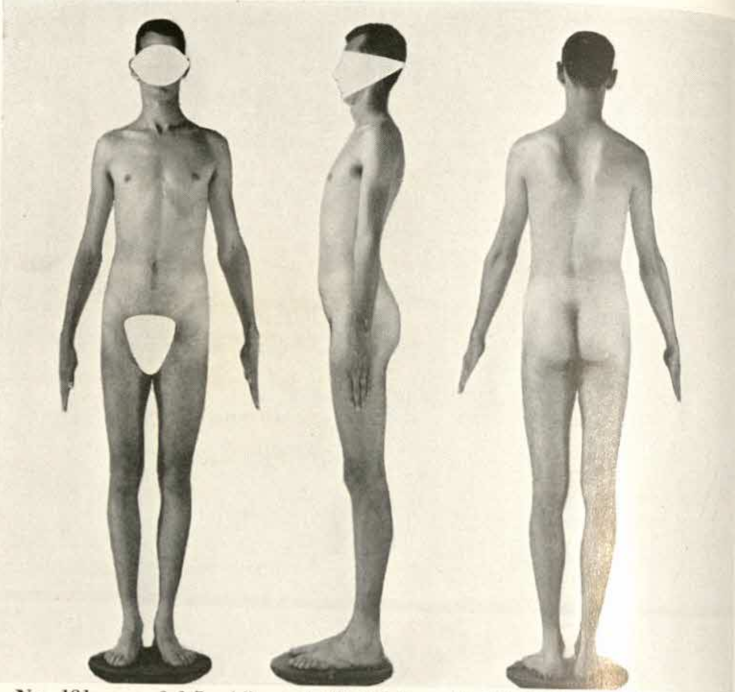


No. 179 *2 2 7 (2)* 2 2 7–2 2 7 14.16 at 24
2 2½ 6½, 2 2½ 6½, 2 1½ 7, 2 2 7, 2 2 7

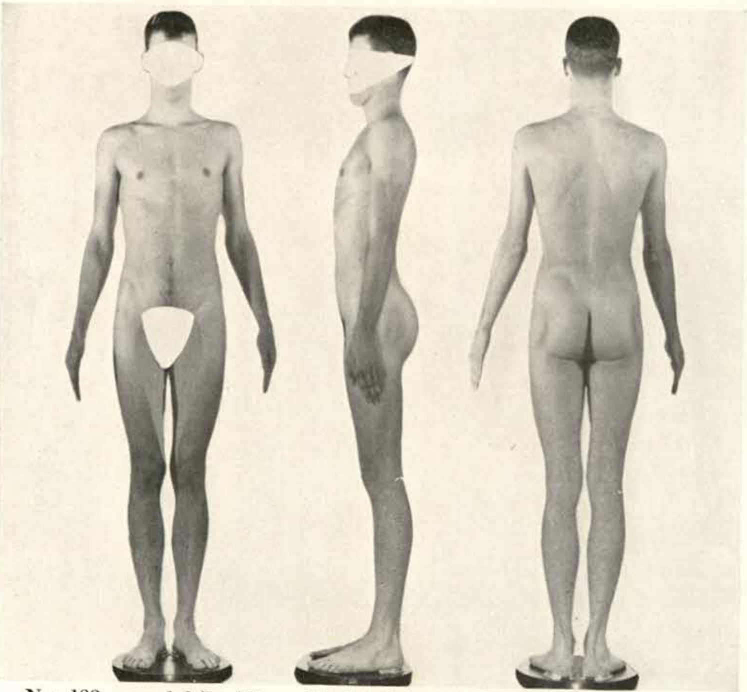


No. 180 *2 2 7* *(3)* 2 2 7–2 3 6 (2 2½ 6½) 14.12 at 18
2 2½ 6½, 2 2½ 6½, 1½ 2 7, 1½ 2½ 6½, 2 2½ 6½

227

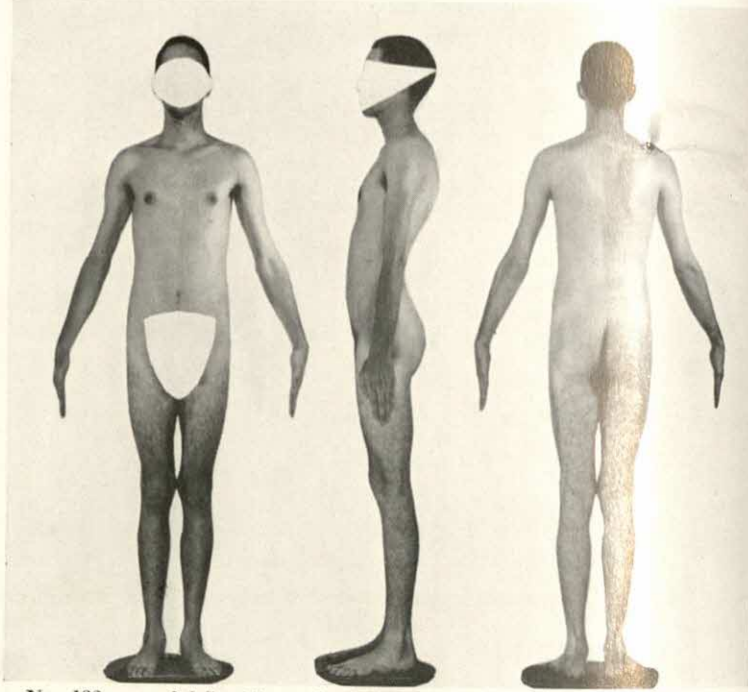


No. 181 *2 2 7* *(4)* 2 2 7–2 3 6 (2 2½ 6½) 14.07 at 22
2 2½ 6½, 2 2½ 6½, 2 2½ 6, 2 2½ 6½, 2½ 2½ 6½

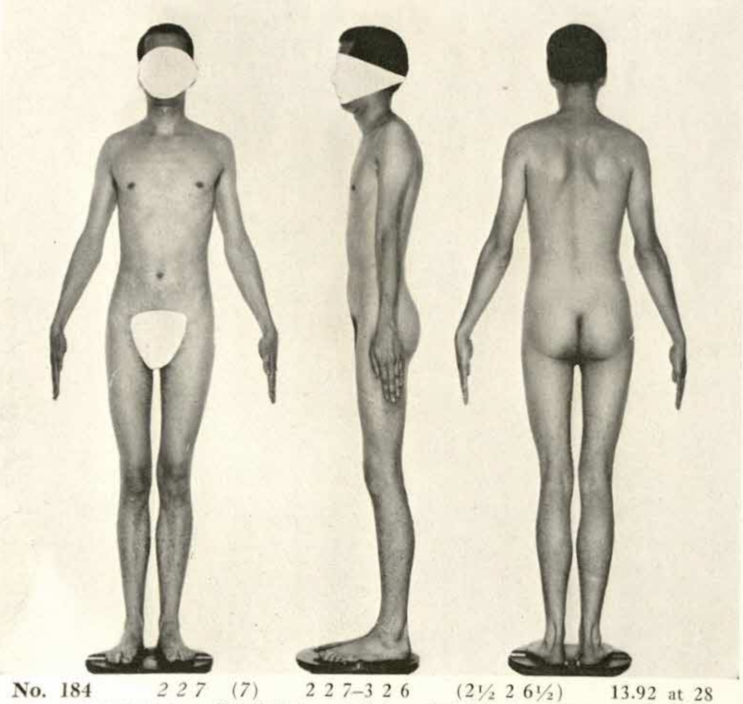


No. 182 *2 2 7* *(5)* 2 2 7–2 3 6 (2 2½ 6½) 14.01 at 26
2½ 3 6, 2 3 6, 2 2½ 6½, 2 2½ 6½, 2½ 2 6½

227

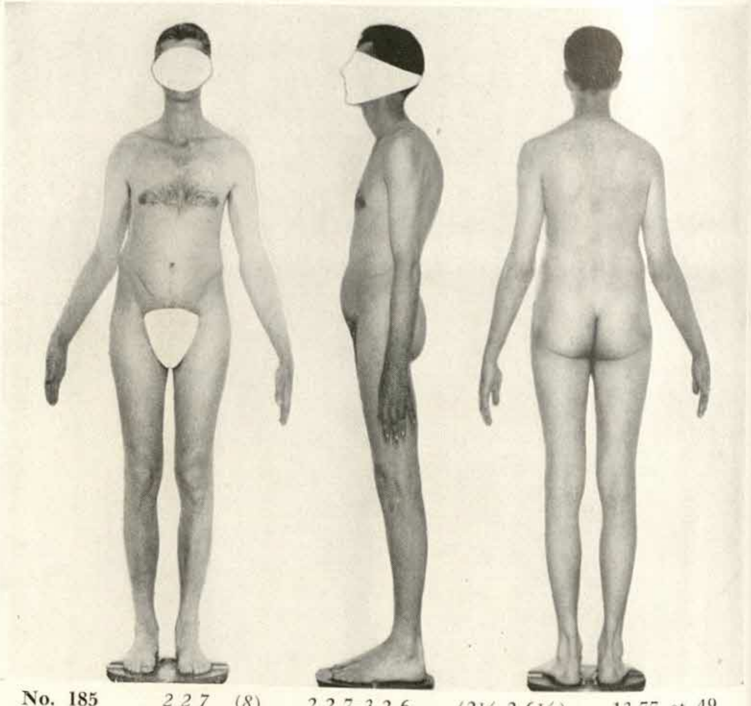


No. 183 *2 2 7* *(6)* 2 2 7–3 2 6 (2½ 2 6½) 14.09 at 19
2½ 2 6½, 2 2 6½, 2 2 6, 2½ 2 6½, 2½ 2 6½



No. 184 *2 2 7* *(7)* 2 2 7–3 2 6 (2½ 2 6½) 13.92 at 28
2½ 2 6½, 2½ 2 6½, 3 2 6, 2½ 2 6½, 2½ 2 6½

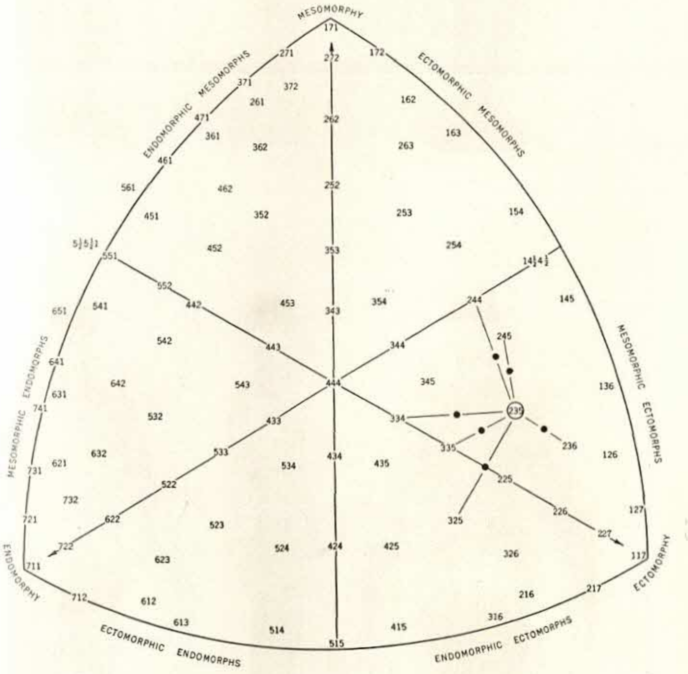
227

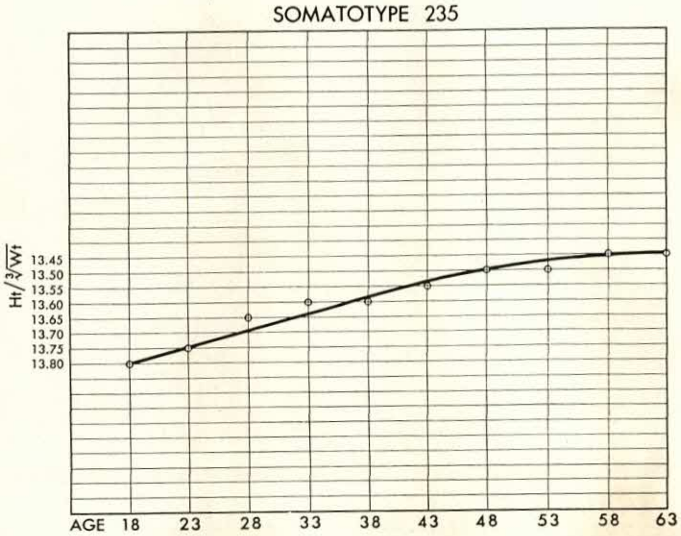


No. 185 *2 2 7* *(8)* 2 2 7–3 2 6 (2½ 2 6½) 13.77 at 49
2 2 6½, 2½ 1½ 6½, 2½ 2 6, 2½ 1½ 6, 2½ 2 6½

10. DOGS OF THE NEAR SOUTHEAST. BRITTLE, DELICATE, LEAN AND FAST

Somatotype 2 3 5 *(Mesomorphic ectomorphy, 10-level.) The foxes and coyotes. Brittle, meat-hungry hunters of great speed, resourcefulness and agility. If cornered, defiant and courageous far beyond their real strength, but normally of a furtive, secretive way of life. Nos. 187–205.*



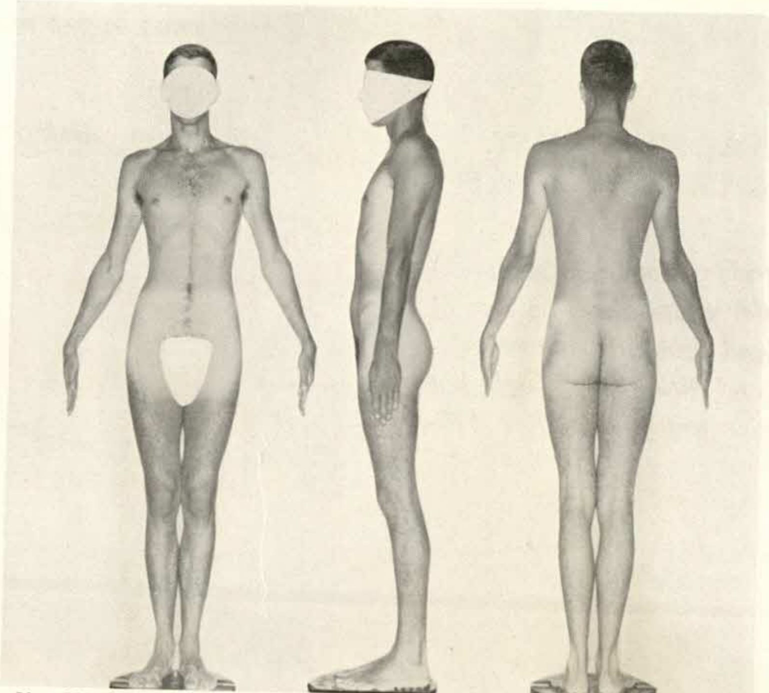


Weight for Age and Height

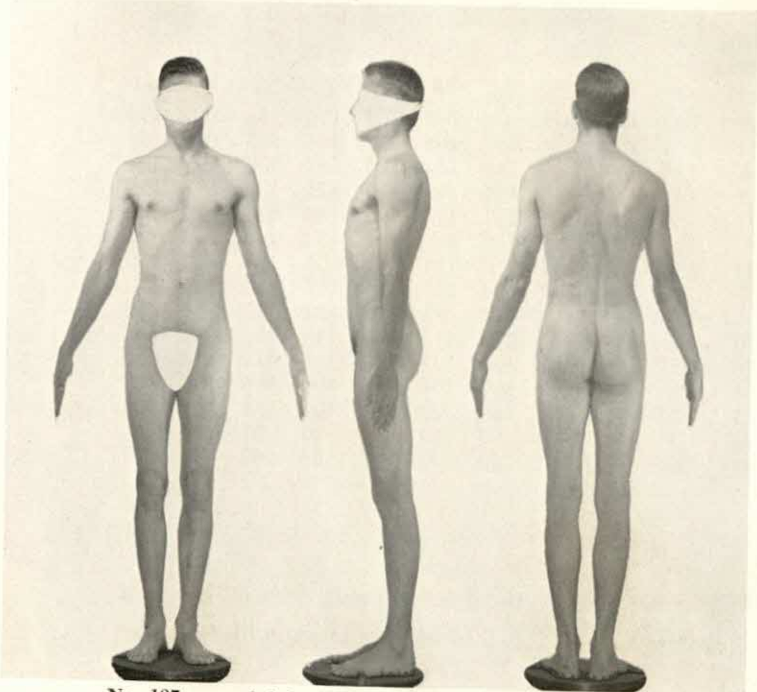
Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	160	162	165	167	168	169	170	172	173	173
74	153	156	159	161	161	162	164	165	166	167
73	146	149	152	153	154	155	157	158	159	160
72	141	143	145	147	148	149	151	152	153	154
71	135	137	140	141	142	143	145	146	146	147
70	130	132	134	136	136	137	139	140	140	141
69	124	126	128	130	131	132	133	134	135	135
68	119	121	123	124	125	126	127	128	129	129
67	114	115	117	119	119	120	122	122	123	123
66	109	110	112	113	114	115	116	117	117	118
65	104	105	107	108	109	110	111	111	112	112
64	99	100	102	103	104	105	106	106	107	107
63	94	96	98	99	99	100	101	101	102	102
62	90	91	93	94	94	96	96	97	97	98
61	86	87	88	89	90	91	92	92	93	93

Rarity 2. Incidence 20 per thousand, or 2 per cent of the male population. We visualize the 2 2 5 as a harmless protein-hungry fellow, grateful for his living, offensive to nobody except those who are intolerant of weaklings, and, when he escapes schizophrenia, quite a faithful and conventional figure who is inclined to be bright. But the 2 3 5 is of a different and sterner stamp. He reveals an added quality of strength and defiance, and is inclined to have a touch of Promethean fire about him. In Christian times this has been the somatotype most often painted as the Christ (with the 2 3 6 a close second—see VT, p. 68; and VHP p. 155). In religious imagery, where a *savior* must intervene to defy the reigning deity and thus redeem a population grown somehow delinquent, the savior tends to be visualized in ectomorphic form, although not as a weakling. There must also be some mesomorphy, and enough enduring or defiant strength for final triumph over the established (Epimethean) pattern. The savior, it seems, must breast and stem the tide of the conventional drift of his own time, setting a pattern which eventually will *turn* the tide.

The 2 3 5 is not infrequently inclined to accept such a challenge. He is too brittle for direct fighting, too ectomorphically exposed to thrive under the overstimulation of most ordinary social life, yet has that 3 in mesomorphy, and along with it just enough of the insulation and relaxation of the first component to experience a sense of confidence and of inner well being. Moreover, his is a long lived somatotype, as the curve of nutrition shows, and he may have some subconscious foreknowledge of that. Perhaps all these factors combine to lead the 2 3 5 frequently to a defiant way of life and often to the mental hospital, with possibly now and then a savior emerging from the ranks.

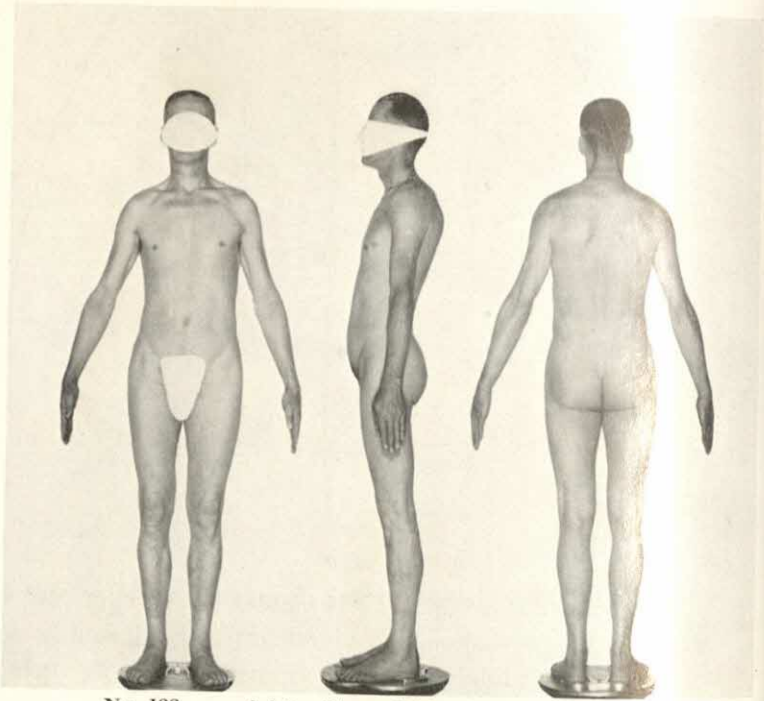


No. 186 *2 2 7* (*9*) 2 2 7–3 3 6 (2½ 2½ 6½) 14.07 at 23
2 2 7, 2½ 2½ 6½, 2½ 2½ 6½, 2½ 2½ 6½, 3 2 6½

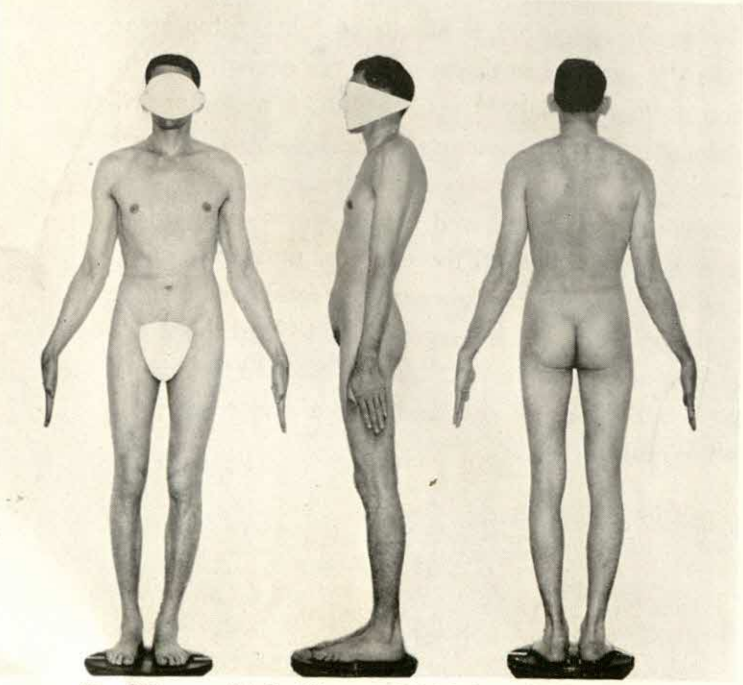


No. 187 *2 3 5* (*1*) 2 3 5–2 3 5 13.78 at 19
2 3 5, 2 3 5, 2 3 5, 2 3 5, 2 3 5½

235

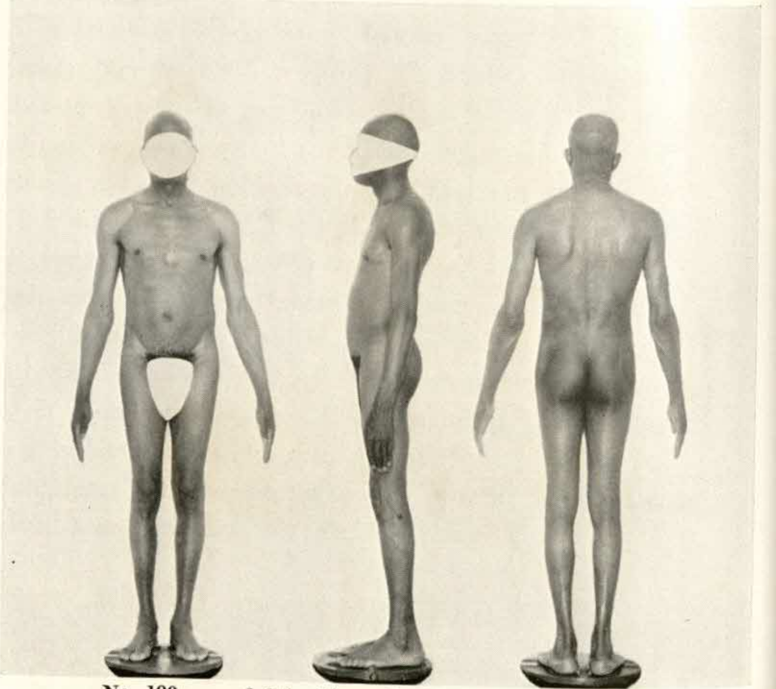


No. 188 *2 3 5* (*2*) 2 3 5–2 3 5 13.50 at 46
2 3 5, 2 3 5, 2 3 5, 1½ 3½ 5, 2 3 5



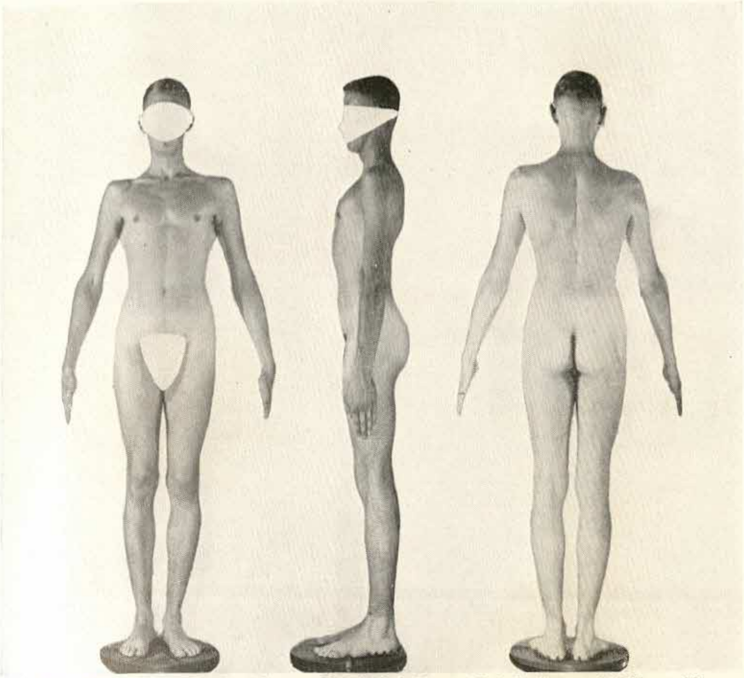
No. 189 *2 3 5* (*3*) 2 3 5–2 3 5 13.51 at 54
2 3 5, 2 3 5, 1½ 4 5, 1½ 3 5½, 2 3 5

235

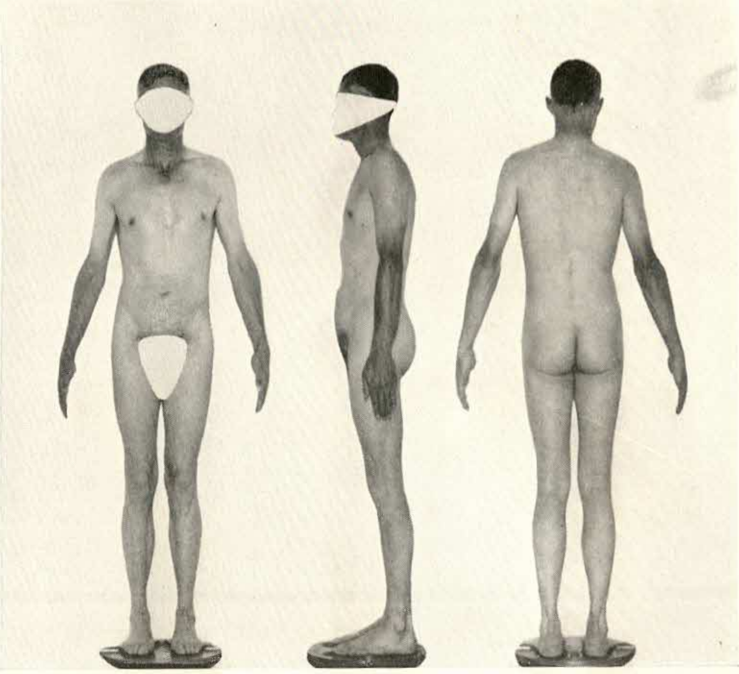


No. 190 *2 3 5* (*4*) 2 3 5–2 3 5 13.47 at 60
2 4 4, 2 3 5, 2 3 5, 1½ 3½ 5, 1½ 2½ 5½

235

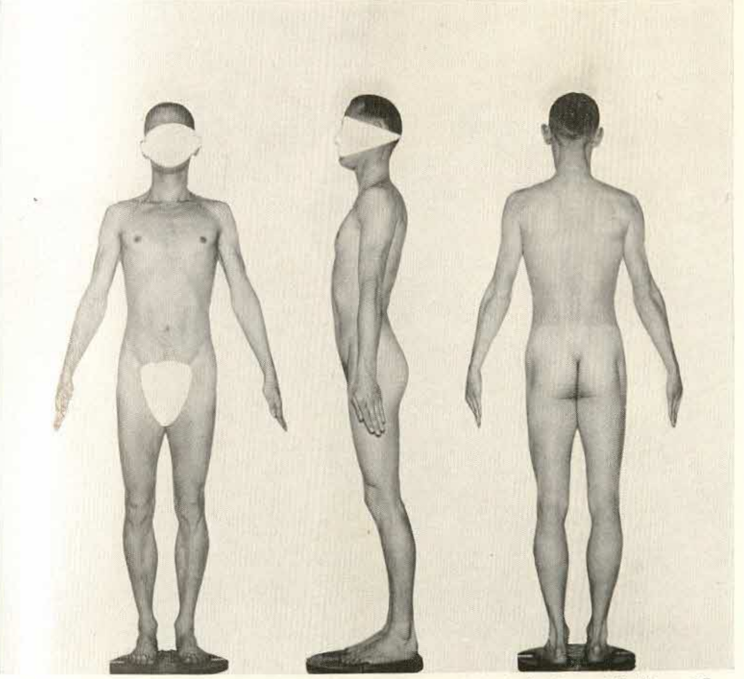


No. 191 *2 3 5* (*5*) 2 3 5–2 3 6 (2 3 5½) 13.85 at 19
1½ 2½ 6, 2 3 5, 2 3 5½, 2 3 5½, 2 3 5½

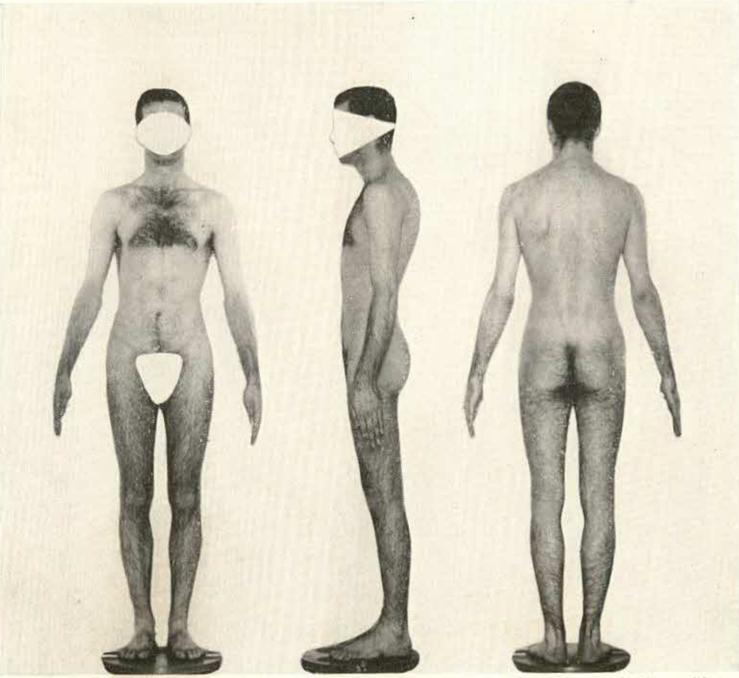


No. 192 *2 3 5* (*6*) 2 3 5–2 3 6 (2 3 5½) 13.55 at 55
2 3 5½, 2 3 5, 2 3 5, 2 3 5½, 2 2½ 5½

235

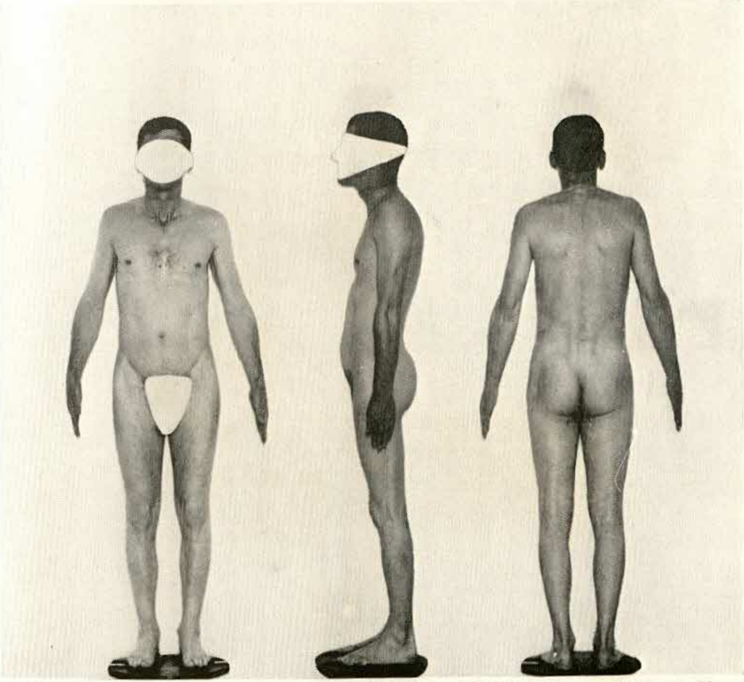


No. 193 *2 3 5* (*7*) 2 3 5–2 4 4 (2 3½ 4½) 13.49 at 27
2 3½ 4½, 2 3½ 4½, 2½ 3 4½, 2½ 3 4½, 2 3½ 4½

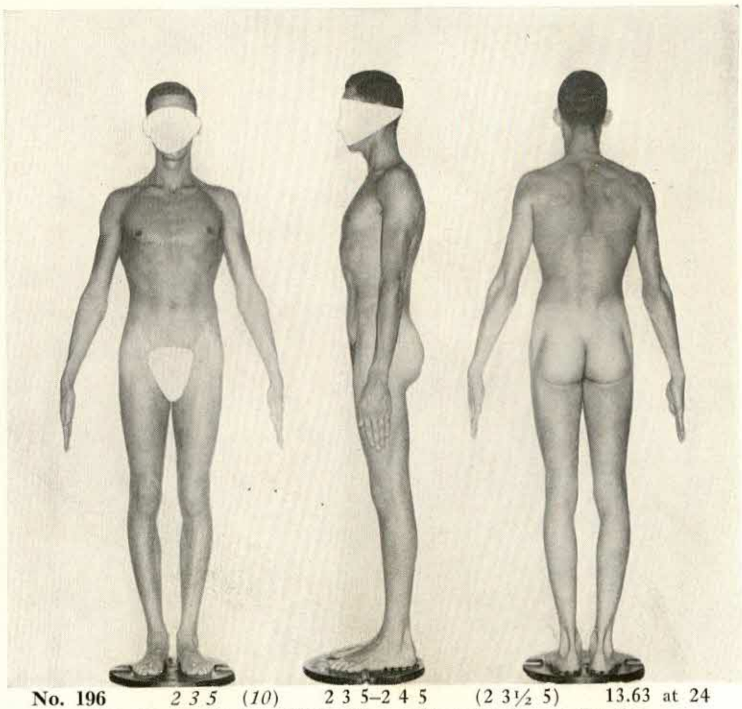


No. 194 *2 3 5* (*8*) 2 3 5–2 4 4 (2 3½ 4½) 13.43 at 33
2½ 4 4, 2 3½ 5, 2 2½ 5, 2 3½ 4½, 2 3 5

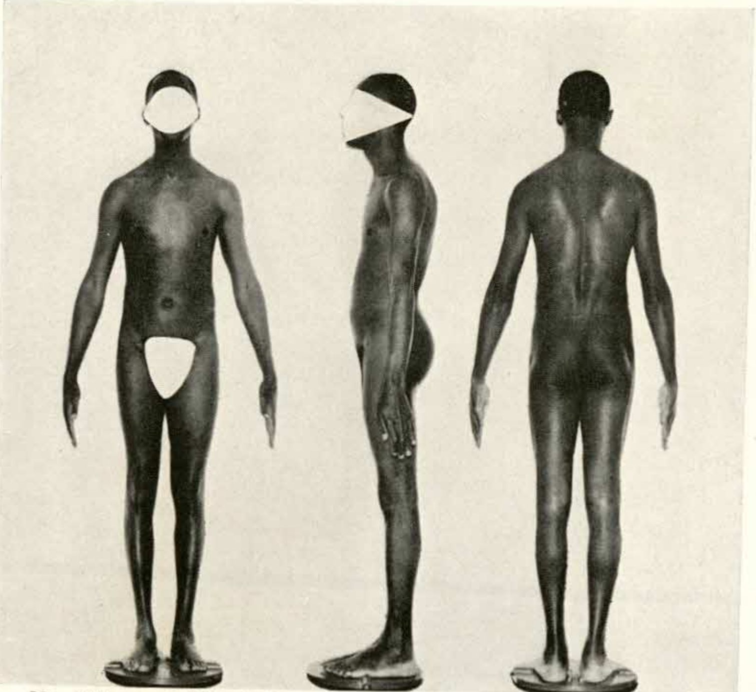
235



No. 195 *2 3 5* (*9*) 2 3 5–2 4 4 (2 3½ 4½) 13.23 at 62
2 3 5, 2 3½ 4½, 2 4 4, 1½ 4 4½, 1½ 4 4½

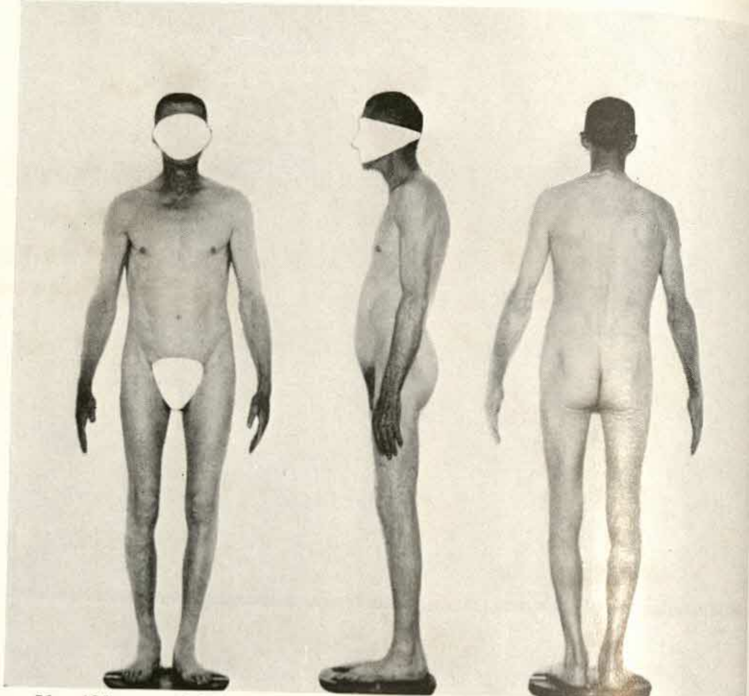


No. 196 *2 3 5* (*10*) 2 3 5–2 4 5 (2 3½ 5) 13.63 at 24
2 3 5½, 2 4 4, 2 3½ 5½, 1½ 3½ 5½, 2 3½ 5½

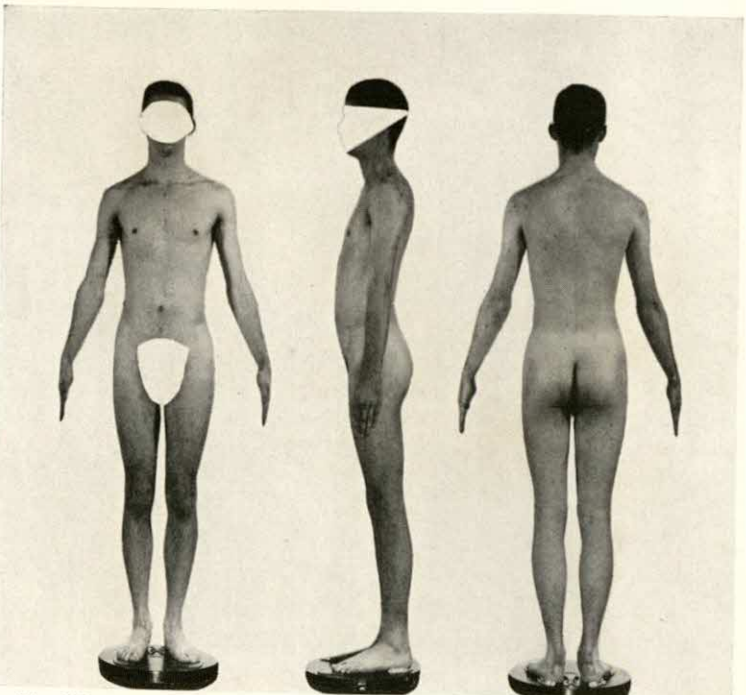


No. 197 *2 3 5* (*11*) 2 3 5–2 4 5 (2 3½ 5) 13.43 at 50
2 3½ 4½, 2 3 5, 2½ 3 5, 1½ 4 4½, 2 3 5½

235

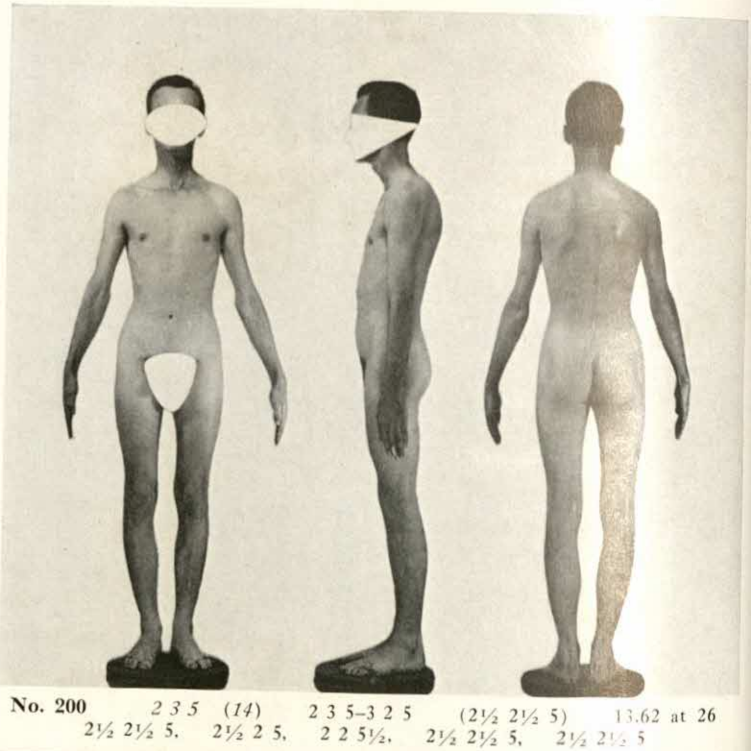


No. 198 *2 3 5* (*12*) 2 3 5–2 4 5 (2 3½ 5) 13.39 at 64
2 3 5, 2 3½ 5, 1½ 3½ 5, 2 3½ 4½, 1½ 3 5½

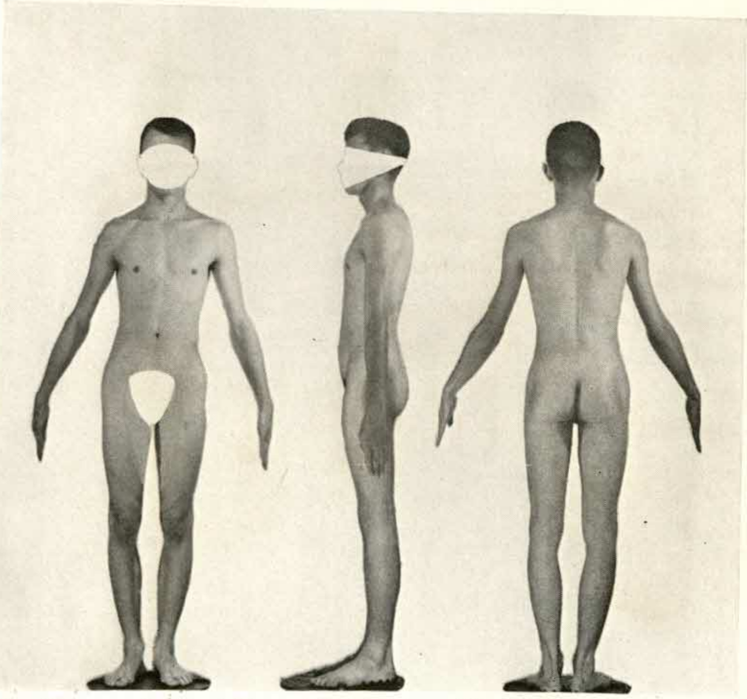


No. 199 *2 3 5* (*13*) 2 3 5–3 2 5 (2½ 2½ 5) 13.78 at 19
3 2½ 4½, 2½ 2½ 5, 2½ 2 5, 2½ 2½ 5½, 3 2½ 5

235

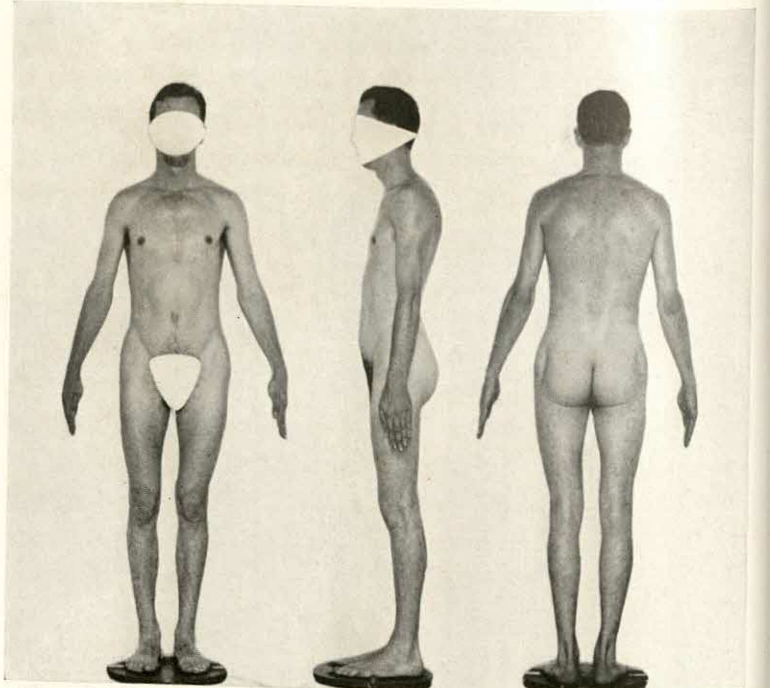


No. 200 *2 3 5* (*14*) 2 3 5–3 2 5 (2½ 2½ 5) 13.62 at 26
2½ 2½ 5, 2½ 2 5, 2 2 5½, 2½ 2½ 5, 2½ 2½ 5



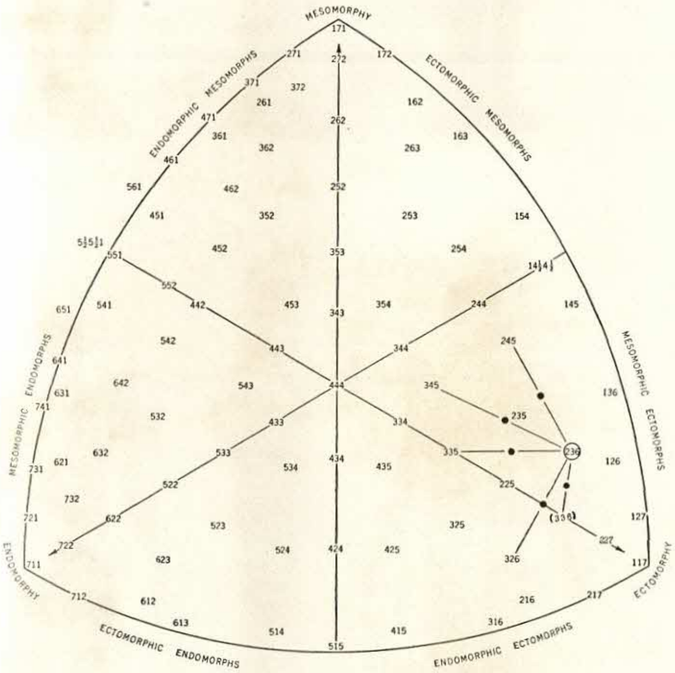
No. 201 *2 3 5* (*15*) 2 3 5–3 3 4 (2½ 3 4½) 13.69 at 18
2½ 3 4½, 2½ 3 4½, 2½ 2½ 5, 2½ 3 4½, 2½ 3½ 4

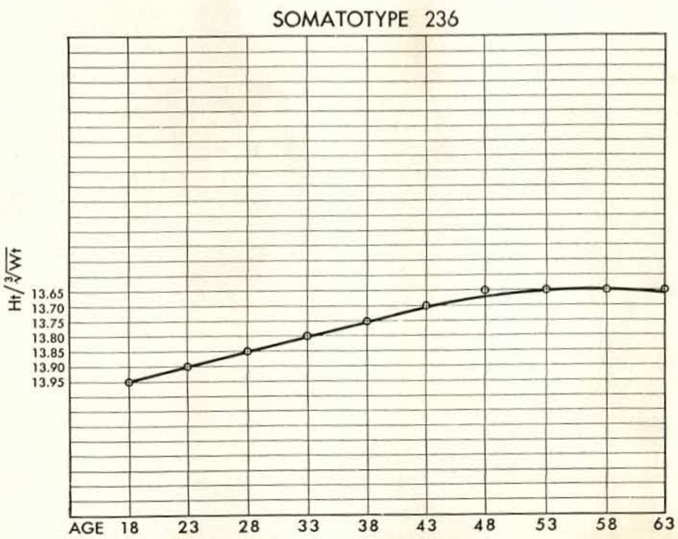
235



No. 202 *2 3 5* (*16*) 2 3 5–3 3 4 (2½ 3 4½) 13.47 at 27
3 3½ 4, 2 3 5, 2 3 5, 2½ 3 4½, 2½ 2½ 5

Somatotype 2 3 6 *(Mesomorphic extreme ectomorphy, 11-level.) Whippets. Fastest, most brittle of all the wolf family. Delicate as foxes but taller, longer legged, more conspicuous. In natural life whippets would be lonely hunters who would have to have meat but could not run with the wolves. Nos. 206–221.*





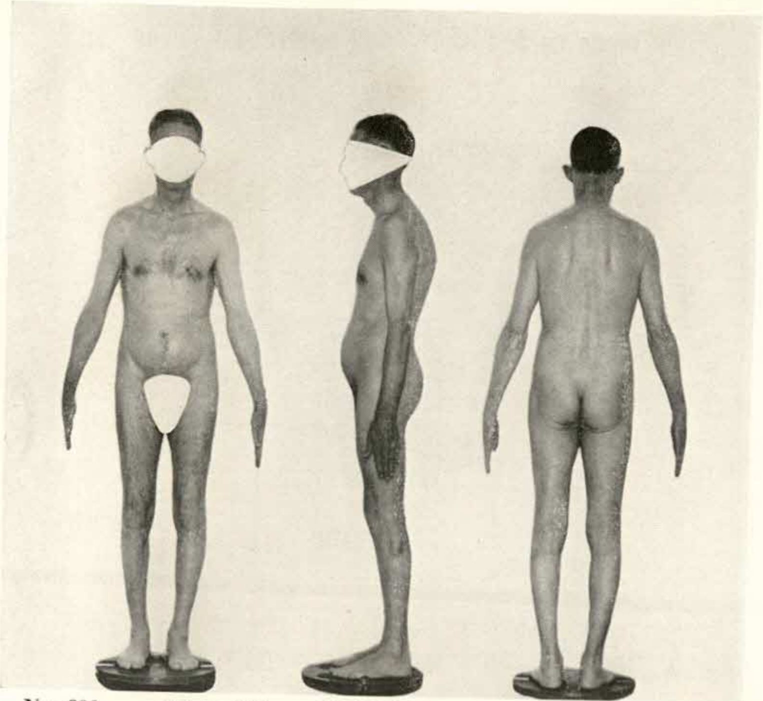
Weight for Age and Height

Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	155	157	159	161	162	164	165	165	165	165
74	149	151	153	155	156	157	159	159	159	159
73	142	145	147	149	150	151	153	153	153	153
72	136	139	140	142	143	144	145	146	146	146
71	131	133	134	136	137	138	140	140	140	140
70	125	128	129	131	131	133	134	134	135	135
69	120	122	124	125	126	127	128	129	129	129
68	115	117	118	120	121	122	123	123	123	123
67	110	112	113	115	115	116	117	118	118	118
66	105	107	108	109	110	111	112	112	113	113
65	100	102	103	105	105	106	107	108	108	108
64	96	97	98	100	100	101	102	103	103	103
63	91	93	94	95	96	97	98	98	98	98
62	87	89	90	91	91	92	93	93	93	93
61	83	85	86	87	87	88	88	89	89	89

Rarity 2. Incidence 15 per thousand. A little less common than the 2 3 5 but of very similar characteristics and disposed toward the same strained-defiant temperament. In a study of about 150 paintings of the Christ, reviewed at the University of Chicago in 1938, it was found that 30 per cent of the artists had pictured the Christian central figure as nearer to the 2 3 6 than to any other somatotype; and about 35 per cent had seemed to portray Christ as most closely resembling the 2 3 5. This may indicate only the persistence of artistic fashion and its reflection of a cultural ideal.

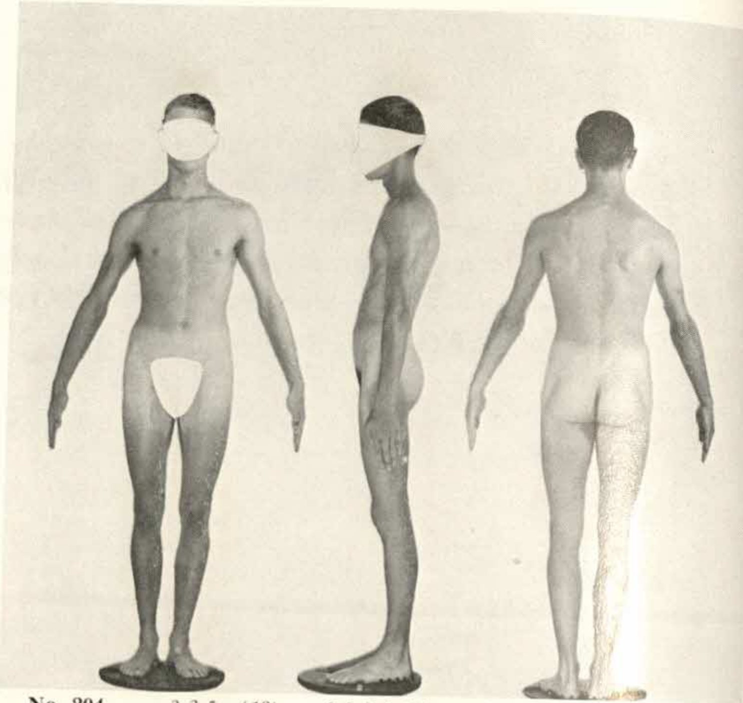
The 2 3 6 typically has an erect, upright manner of walking. He is often sprightly, with excellent coördination, and therefore is likely to be attracted toward some kind of athletics. This often results in frustration, for competitive stamina and strength are not found with a 6 in ectomorphy. But the 2 3 6 is one of the tallest somatotypes and occasionally reaches 78 or even 80 inches without any apparent endocrinopathy (without pituitary giantism). Such a youth has obvious advantages at certain games. Sometimes he can be used for short periods as a basketball center even at the college level. In our series there is a 2 3 6 who won a letter as a college baseball pitcher, although he never pitched a complete college game. If cherry picking could be recognized as a competitive sport, a 2 3 6 might win a national championship.

Both the 2 3 5 and the 2 3 6 seem rare in the general medical clinics, as indeed do all of the mesomorphic ectomorphs. This pattern seems resistant to the common infections and to the degenerative diseases as well. Its psychiatric weakness is schizophrenia, of the paranoid type.

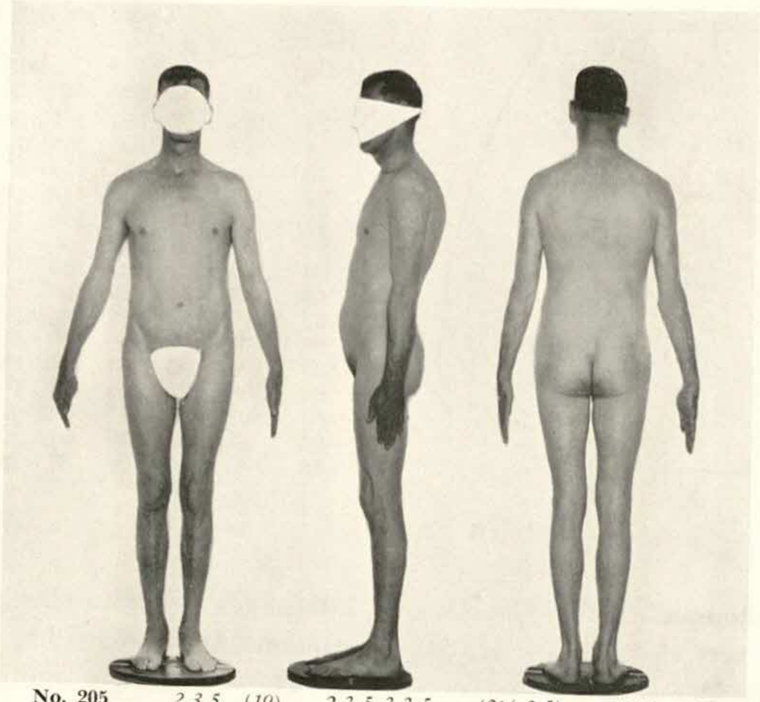


No. 203 *2 3 5* (*17*) 2 3 5–3 3 4 (2½ 3 4½) 13.21 at 63
2½ 3 4½, 2½ 2½ 4½, 2 2½ 5, 2½ 3½ 4, 2½ 3 4½

235

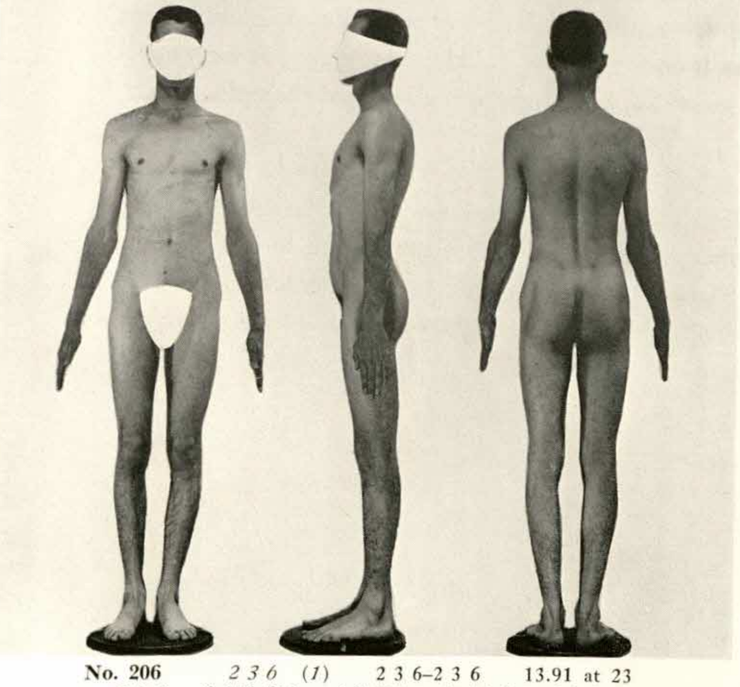


No. 204 *2 3 5* (*18*) 2 3 5–3 3 5 (2½ 3 5) 13.76 at 18
2½ 3½ 5, 2 3 5, 2 3 5, 2½ 3 5, 2½ 3 5

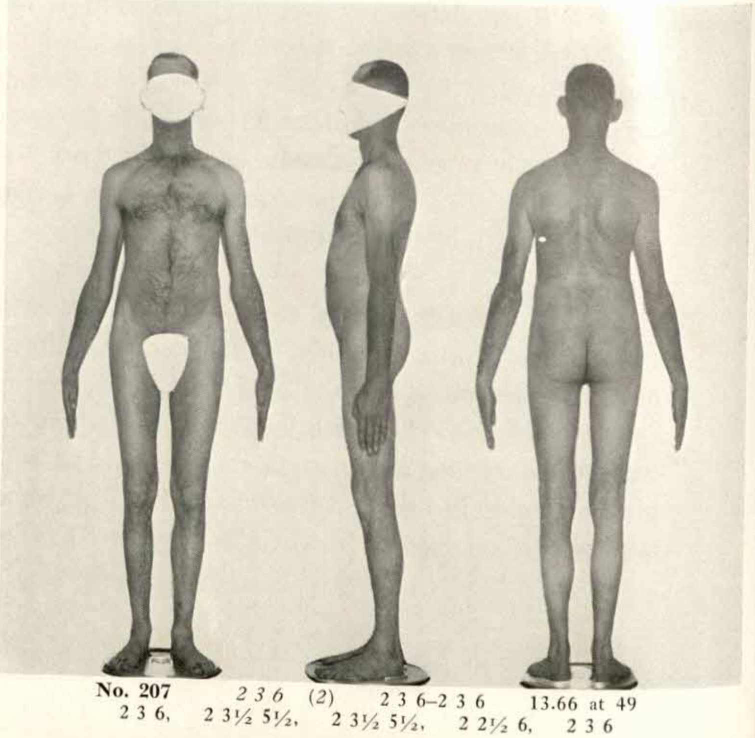


No. 205 *2 3 5* (*19*) 2 3 5–3 3 5 (2½ 3 5) 13.35 at 49
2½ 3½ 5, 2½ 3 5, 2½ 3 5, 2½ 3½ 4½, 2½ 3 5

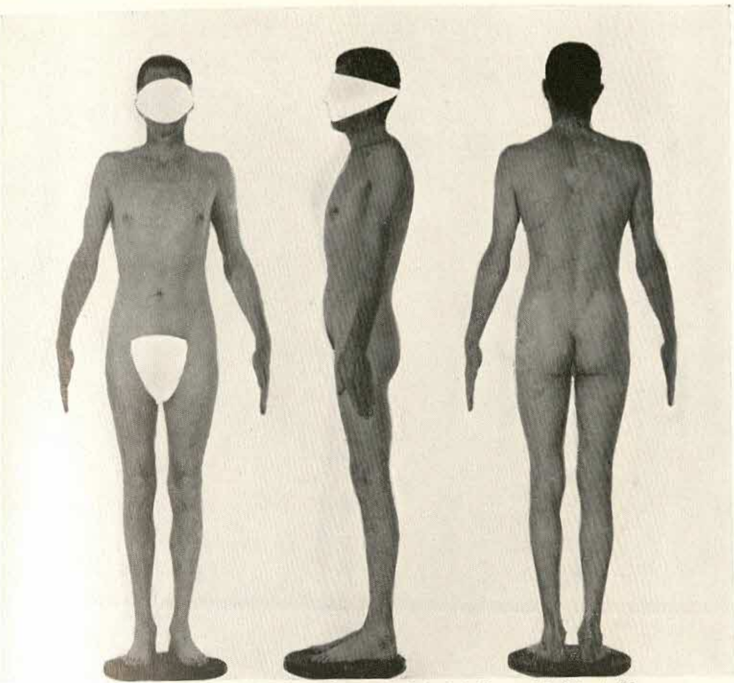
236



No. 206 *2 3 6* (*1*) 2 3 6–2 3 6 13.91 at 23
2 3 6, 2 3½ 5½, 2 3 5½, 1½ 3 6, 2 3 6

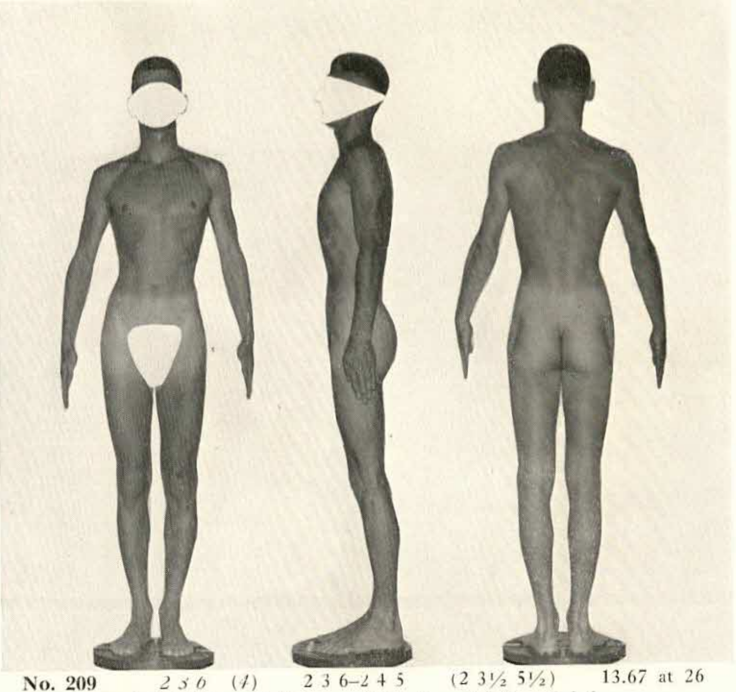


No. 207 *2 3 6* (2) 2 3 6–2 3 6 13.66 at 49
2 3 6, 2 3½ 5½, 2 3½ 5½, 2 2½ 6, 2 3 6

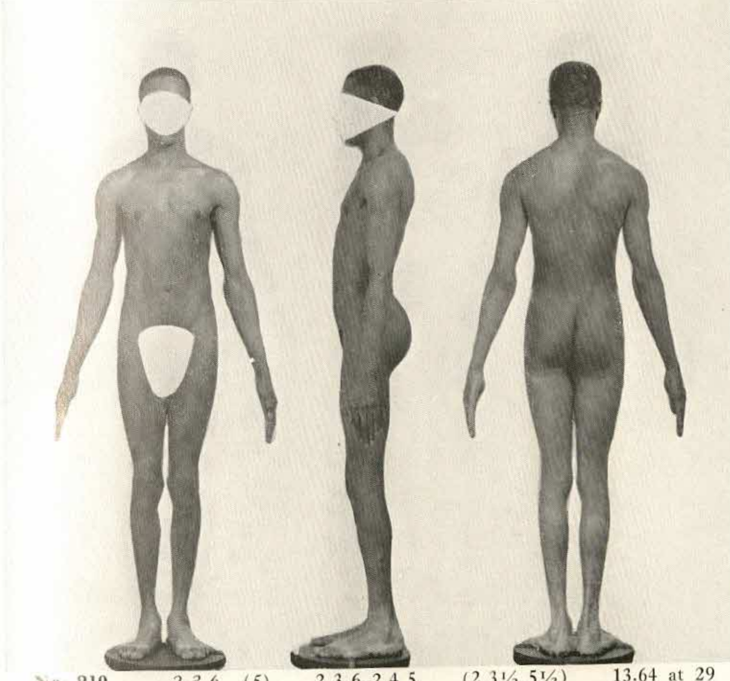


No. 208 *2 3 6* (*3*) 2 3 6–2 3 6 13.65 at 59
2½ 3½ 5½, 2 3 6, 2 2½ 6, 2 2½ 6, 2 2½ 6½

236

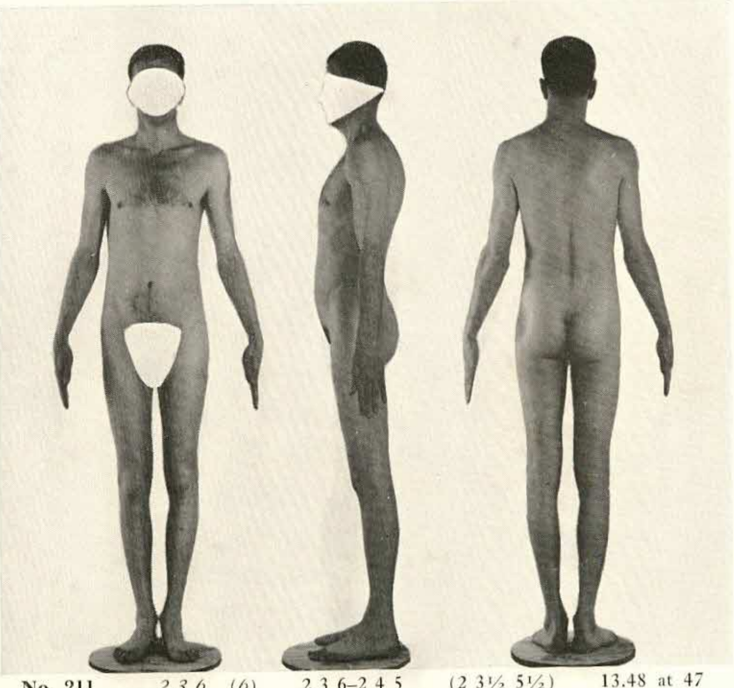


No. 209 *2 3 6* (*4*) 2 3 6–2 4 5 (2 3½ 5½) 13.67 at 26
2 3½ 5½, 2 3½ 5, 2 3½ 5, 2 3 6, 2 3 6

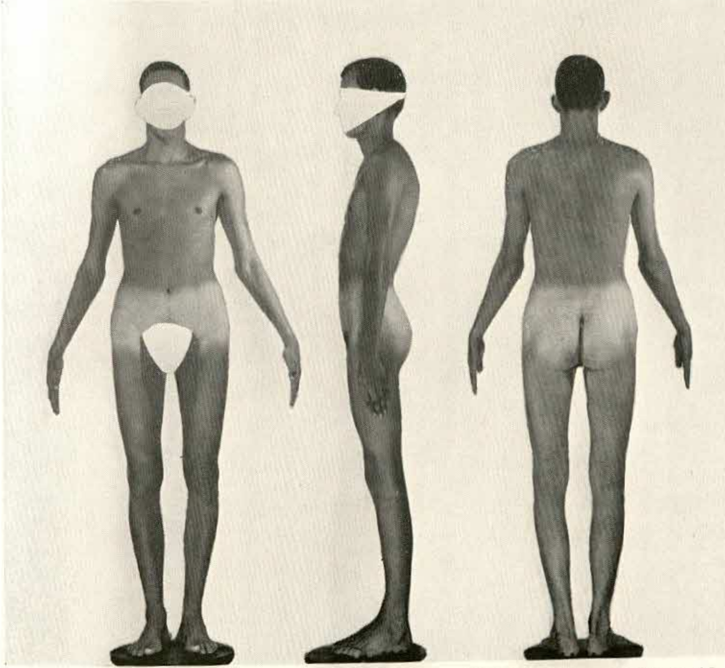


No. 210 *2 3 6* (*5*) 2 3 6–2 4 5 (2 3½ 5½) 13.64 at 29
2 4 5, 2 3½ 5½, 1½ 3½ 5½, 1½ 3½ 5½, 2 2½ 6

236

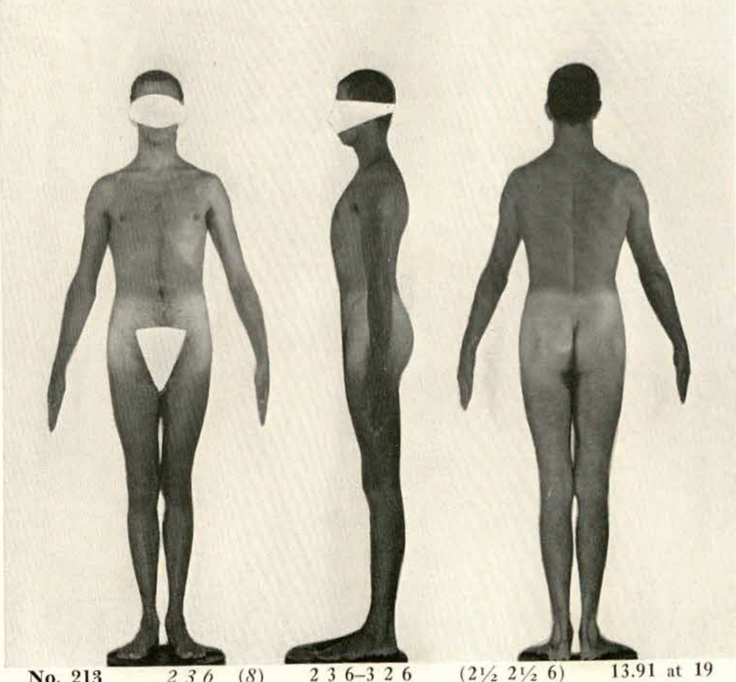


No. 211 *2 3 6* (*6*) 2 3 6–2 4 5 (2 3½ 5½) 13.48 at 47
2 3½ 5½, 2 3½ 5½, 2 3½ 5, 2 3½ 5½, 2½ 3 6

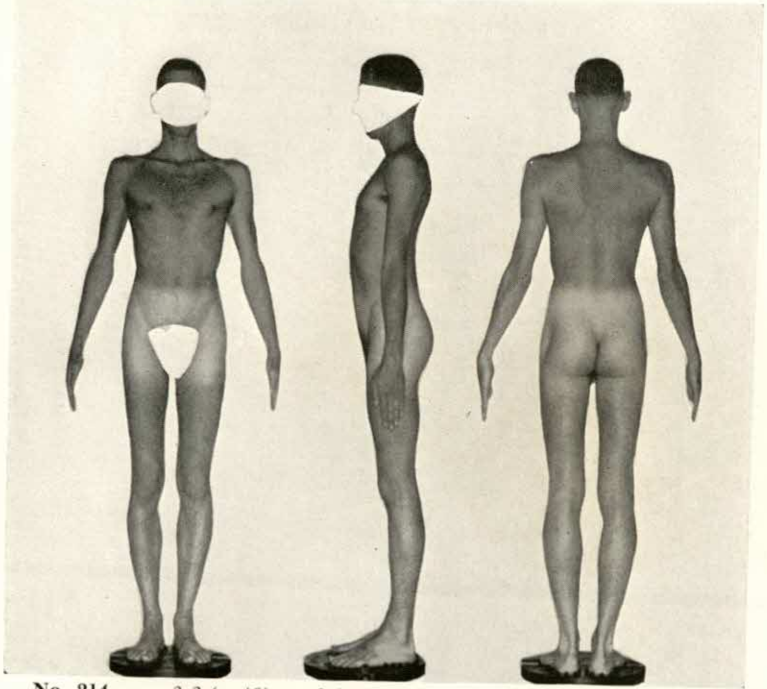


No. 212 *2 3 6* (*7*) 2 3 6–3 2 6 (2½ 2½ 6) 13.94 at 18
2½ 3 6, 2½ 2 6, 2½ 2 6, 2 2½ 6, 2½ 2½ 6

236

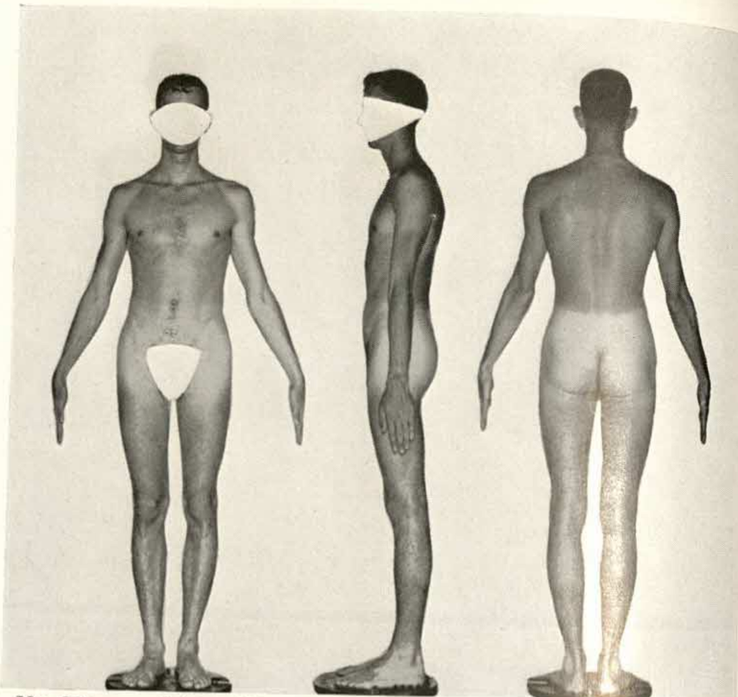


No. 213 *2 3 6* (*8*) 2 3 6–3 2 6 (2½ 2½ 6) 13.91 at 19
2½ 2 6½, 2½ 3 5, 2½ 2 6, 2½ 2½ 5½, 3 2½ 6

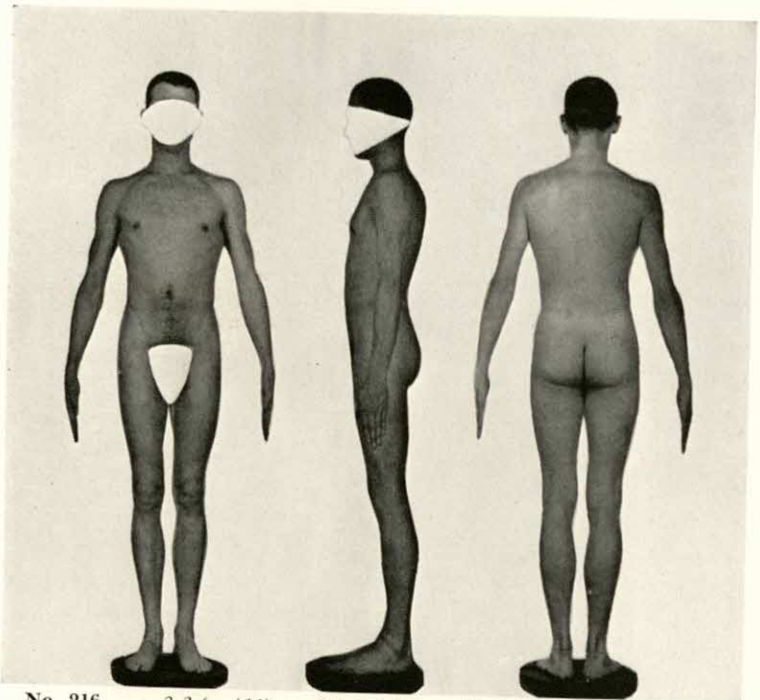


No. 214 *2 3 6* (*9*) 2 3 6–3 3 5 (2½ 3 5½) 13.75 at 20
1½ 2 6, 2½ 3 5½, 2½ 2½ 6, 2½ 3 5, 2½ 3 5½

236

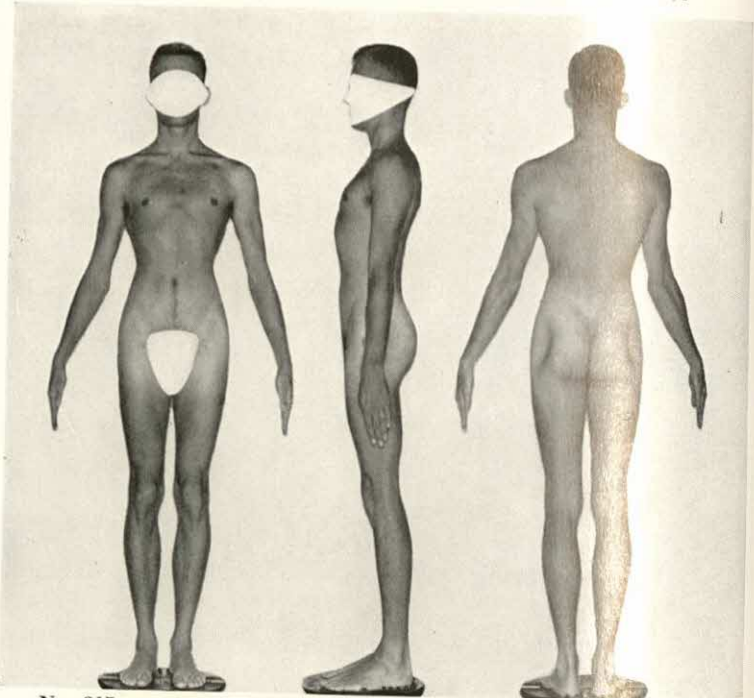


No. 215 *2 3 6* (*10*) 2 3 6–3 3 5 (2½ 3 5½) 13.69 at 23
2 2½ 6, 2½ 3½ 5, 2½ 3 5½, 2½ 3½ 5½, 2½ 3 5½

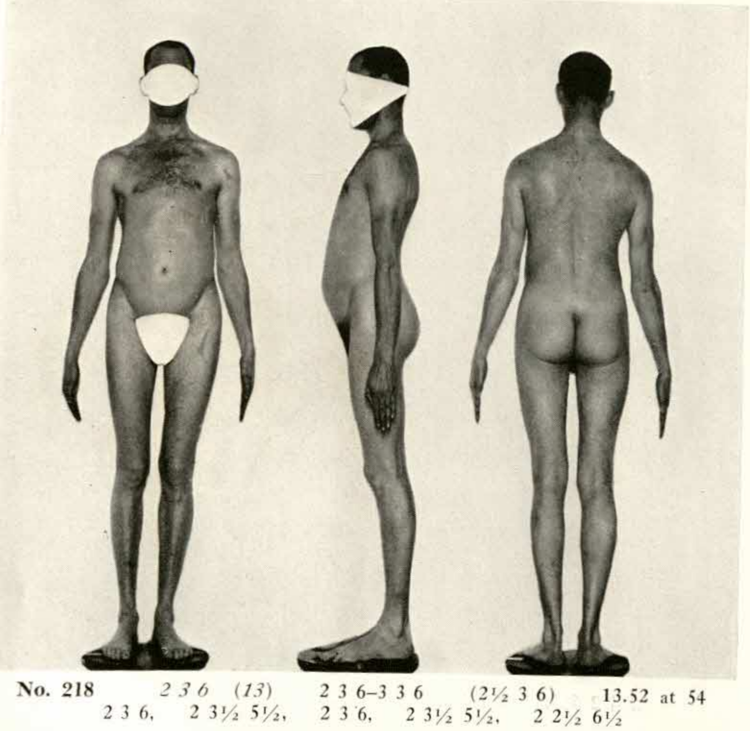


No. 216 *2 3 6* (*11*) 2 3 6–3 3 5 (2½ 3 5½) 13.62 at 28
2½ 3 5½, 2½ 3 5½, 2½ 2½ 6, 2½ 3 5½, 2½ 2½ 6

236

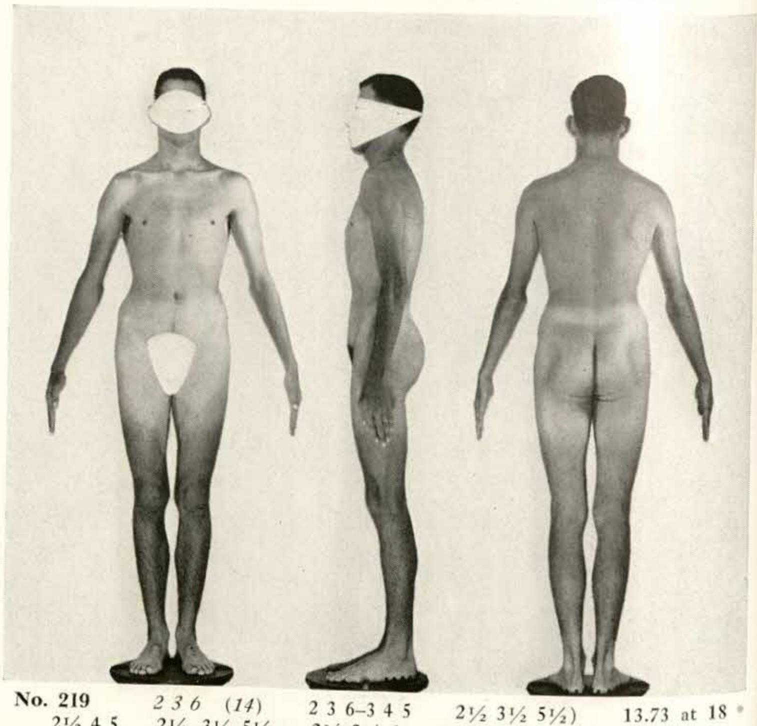


No. 217 *2 3 6* (*12*) 2 3 6–3 3 6 (2½ 3 6) 13.79 at 22
2½ 3½ 5½, 2½ 3 6, 2½ 3 6, 2½ 2½ 6, 2½ 2½ 6



No. 218 *2 3 6* (*13*) 2 3 6–3 3 6 (2½ 3 6) 13.52 at 54
2 3 6, 2 3½ 5½, 2 3 6, 2 3½ 5½, 2 2½ 6½

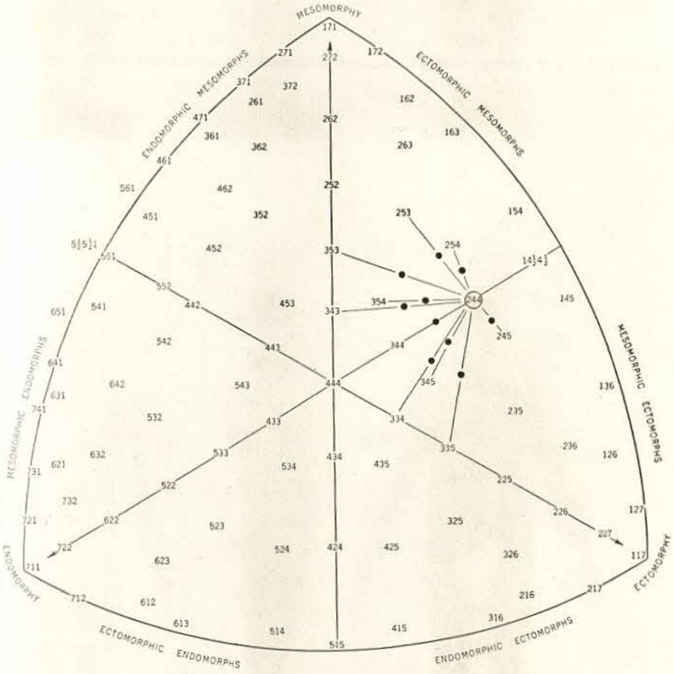
236

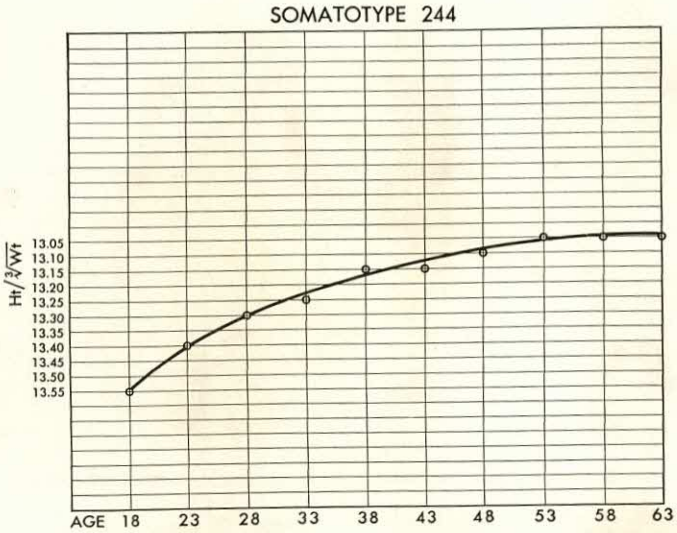


No. 219 *2 3 6* (*14*) 2 3 6–3 4 5 2½ 3½ 5½) 13.73 at 18
2½ 4 5, 2½, 3½ 5½, 2½ 2½ 6, 2½ 3½ 5½, 2½ 3 5½

11. DOGS OF THE NEAR NORTHEAST. LEAN AND FAST, BUT LESS DELICATE

Somatotype 2 4 4 *(Balanced mesomorph-ectomorph, 10-level.) Wolves. Lean, swift hunters of meat who are not so lonely as the foxes and coyotes, and are far stronger. Nos. 222–252.*



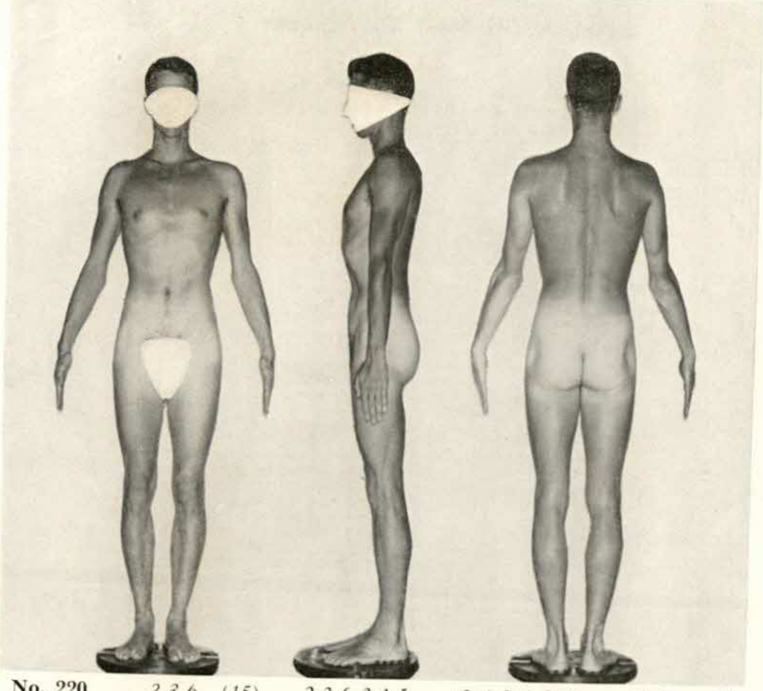


Weight for Age and Height

Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	170	175	179	181	184	186	188	189	190	191
74	163	168	172	174	177	178	180	181	182	182
73	157	162	165	168	170	171	173	174	175	176
72	150	155	158	160	163	164	166	167	168	168
71	144	148	152	154	156	157	159	160	161	161
70	138	142	146	148	150	151	153	154	155	155
69	132	137	140	142	144	145	147	147	148	149
68	127	131	134	135	138	139	140	141	142	142
67	121	125	128	129	132	132	134	135	136	136
66	115	119	122	124	126	126	128	129	129	130
65	110	114	116	118	120	121	122	123	124	124
64	105	109	111	113	115	115	117	117	118	118
63	100	104	106	108	109	110	111	112	113	113
62	96	99	101	103	104	105	106	106	108	109
61	91	94	96	98	99	100	101	101	102	102

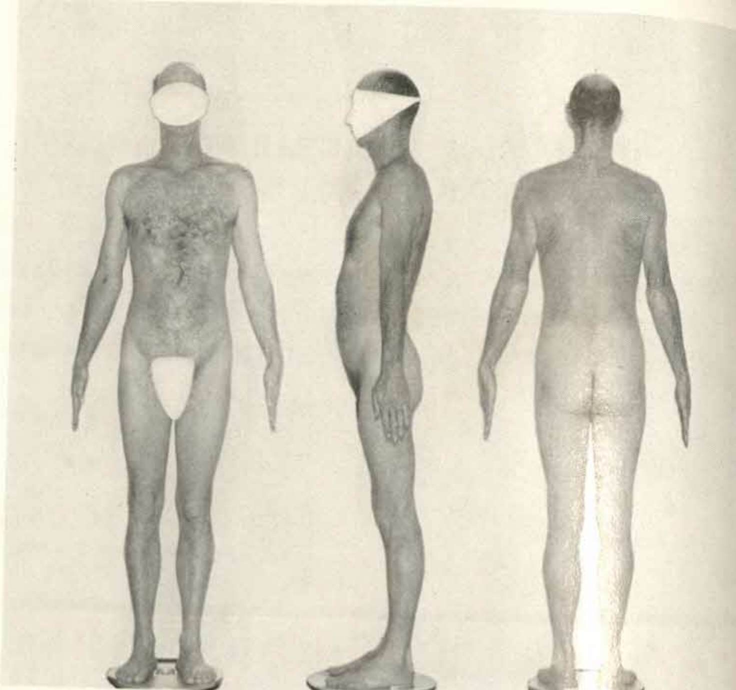
Rarity 1. Incidence 40 per thousand. The first really common somatotype in the series. If you mix widely among people you see this one every day, about four to the hundred, and the lean, wiry 2 4 4 is well distributed in every walk of life. The two balanced mesomorph-ectomorphs (2 4 4 and 3 4 4) are the commonest "slender young men" encountered on college campuses and perhaps wherever men congregate. The former is usually called "wiry" or *very* slender. But he is near the masculine mean in mesomorphy and is therefore sufficiently muscular, or husky, to feel at ease on bathing beaches or wherever else his carcass is publicly displayed. Probably the 2 4 4 is the somatotype most often portrayed on the advertising pages of magazines. The face and whole body are inclined to be somewhat squarishly masculine and angular, but lightly built. The proportions of leg and arm length to trunk length are those which in general define "good conservative masculine taste," and this is true usually of the features of the face and indeed of the body as a whole. The waist is typically narrow and rather low, with chest clearly predominant over abdomen so that the shoulders tend to be broad, and the hips are inclined to be narrow except when gynandromorphy is conspicuous.

At a stature of 69 inches the average 2 4 4 will gradually gain about 17 pounds in the course of his adult life, weighing 149 in his early sixties. With his clothes on this would be about 156. Men who present approximately this history are likely to be long lived, and judging by its nutrition curve the 2 4 4 may be one of the half dozen longest lived somatotypes.

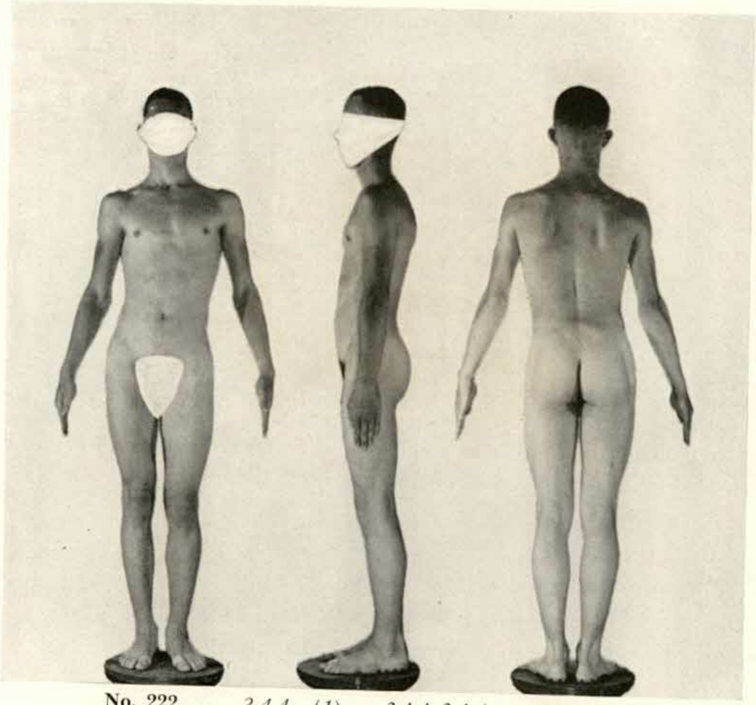


No. 220 *2 3 6* (*15*) 2 3 6–3 4 5 (2½ 3½ 5½) 13.68 at 24
2 3 6, 2½ 3½ 5½, 2½ 3½ 5½, 2½ 3½ 5½, 2½ 3½ 5½

236

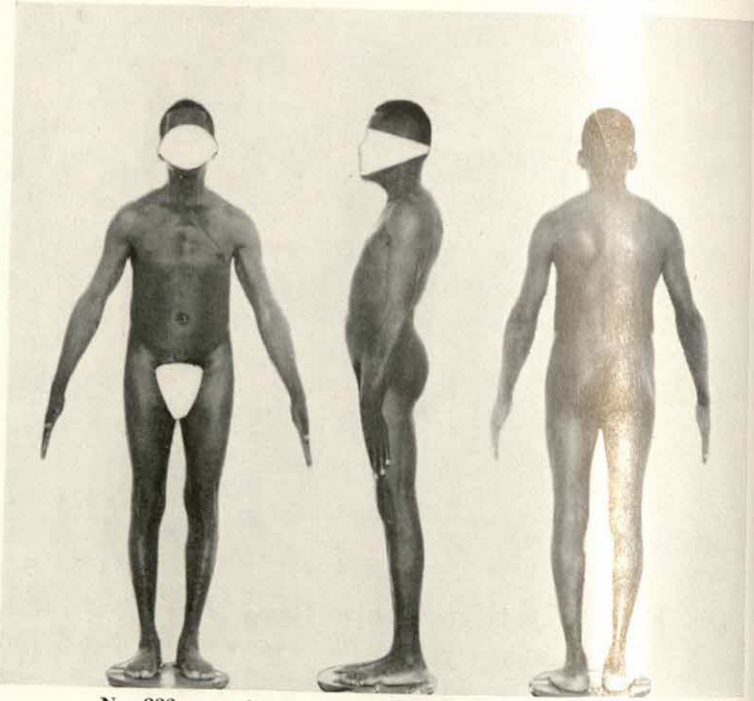


No. 221 *2 3 6* (*16*) 2 3 6–3 4 5 (2½ 3½ 5½) 13.45 at 40
2½ 3½ 5½, 2½ 3½ 5½, 2½ 3½ 5, 2½ 3½ 5½, 2½ 3½ 5½

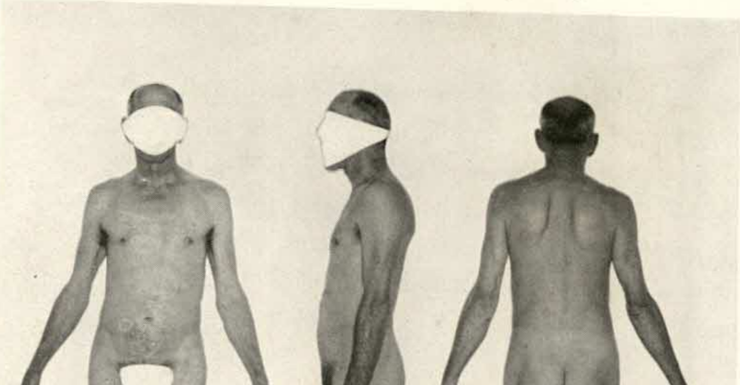


No. 222 *2 4 4* (*1*) 2 4 4–2 4 4 13.53 at 18
2 4 4, 2 4 4, 2 4 4, 2 4 4, 2½ 4 3½

244

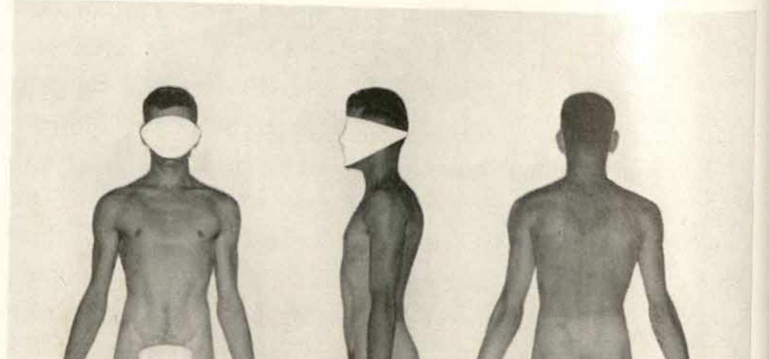


No. 223 *2 4 4* (*2*) 2 4 4–2 4 4 13.04 at 53
2 4 4, 2 4 4, 2 3½ 5, 2½ 4 3, 2 3½ 5



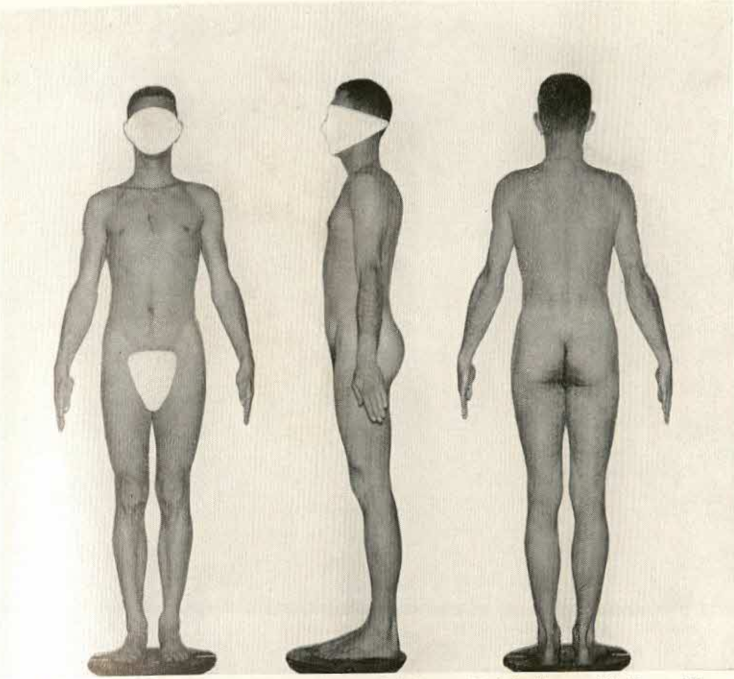
No. 224 *2 4 4* (*3*) 2 4 4–2 4 4 13.06 at 65
2 4½ 4½, 2 4 4, 2 4 4, 2 4 4, 2 4 4

244

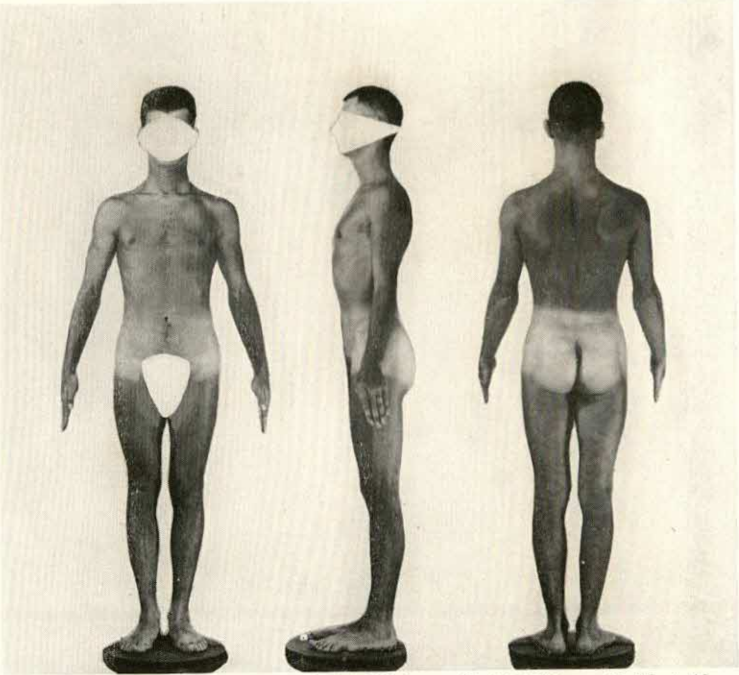


No. 225 *2 4 4* (*4*) 2 4 4–2 4 5 (2 4 4½) 13.49 at 23
2 4½ 4½, 2 4 4½, 2 4 4½, 2 3½ 4½, 2½ 3½ 4½

244

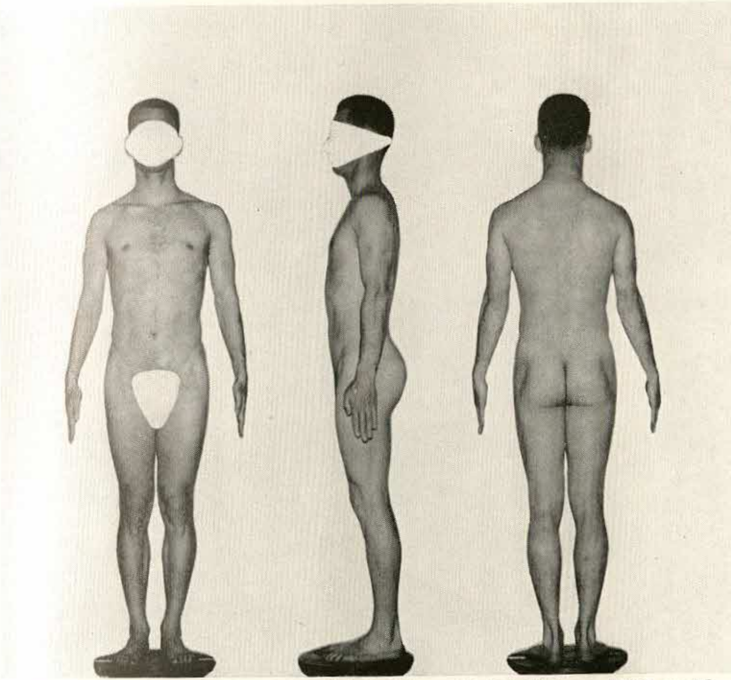


No. 226 *2 4 4* (*5*) 2 4 4–2 4 5 (2 4 4½) 13.42 at 27
2 3½ 4½, 2 4 4½, 2 3½ 4½, 2 4 4, 2 4½ 4½

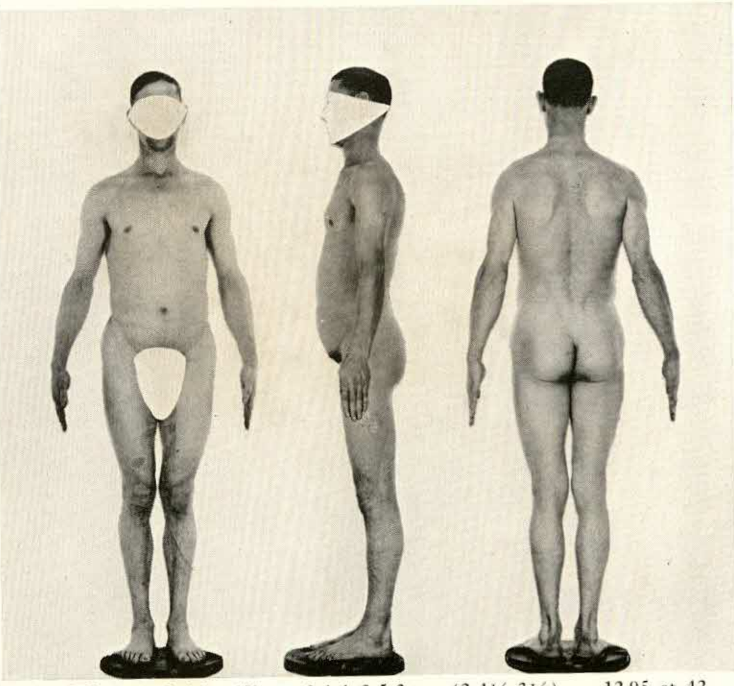


No. 227 *2 4 4* (*6*) 2 4 4–2 5 3 (2 4½ 3½) 13.35 at 19
2 4½ 3½, 2 4½ 3½, 2½ 4 3½, 2 4½ 3½, 2½ 4 4

244

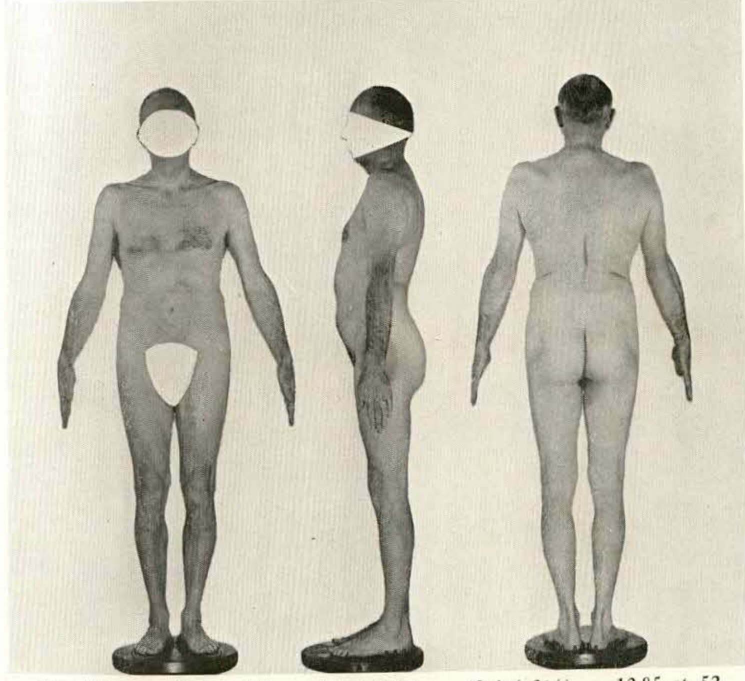


No. 228 *2 4 4* (*7*) 2 4 4–2 5 3 (2 4½ 3½) 13.04 at 35
2 4½ 3½, 2½ 4½ 3½, 2½ 4 3½, 2 4½ 4, 2 4½ 4

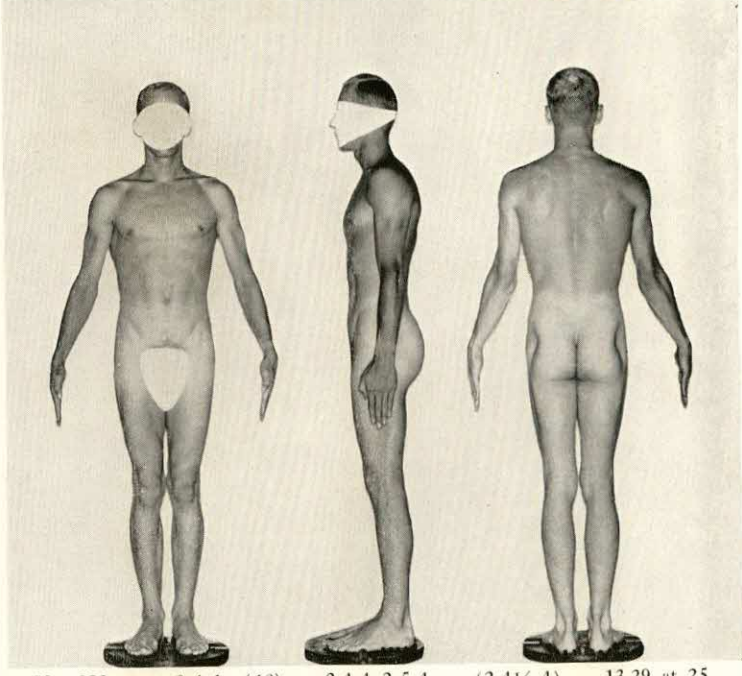


No. 229 *2 4 4* (*8*) 2 4 4–2 5 3 (2 4½ 3½) 12.95 at 42
2 4½ 4, 2 5 3, 2 5 3, 2 4½ 3½, 2½ 3½ 4

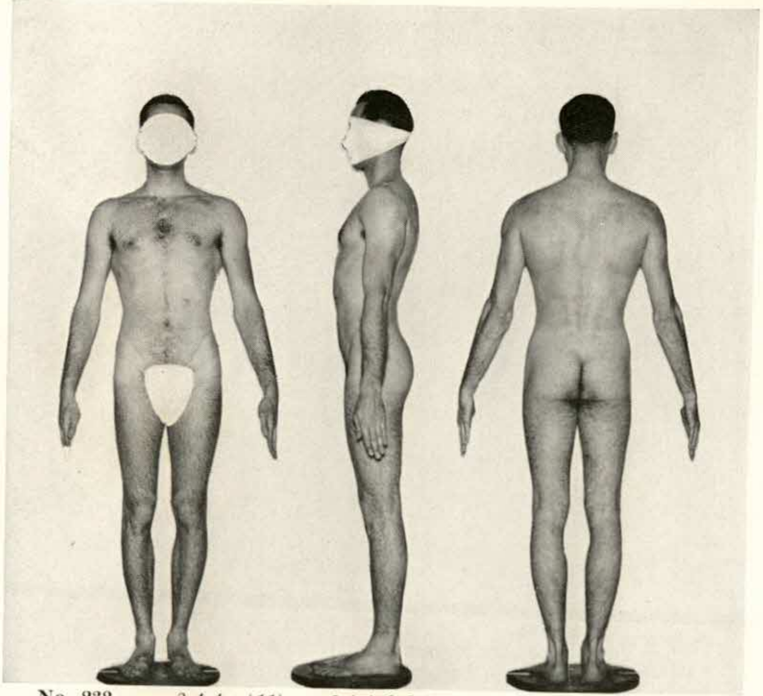
244



No. 230 *2 4 4* (*9*) 2 4 4–2 5 3 (2 4½ 3½) 12.85 at 52
2 4½ 3½, 2 4½ 4, 2 4½ 3½, 2½ 4½ 3, 2 4 4½

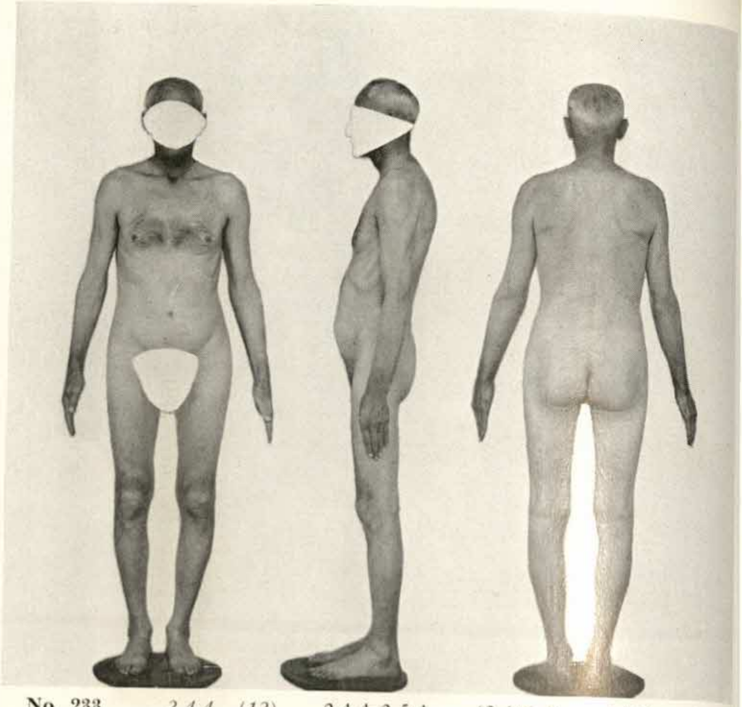


No. 231 *2 4 4* (*10*) 2 4 4–2 5 4 (2 4½ 4) 13.29 at 25
2 4½ 4, 2 5 4, 2 4½ 4, 2 4½ 4½, 2 4½ 4½

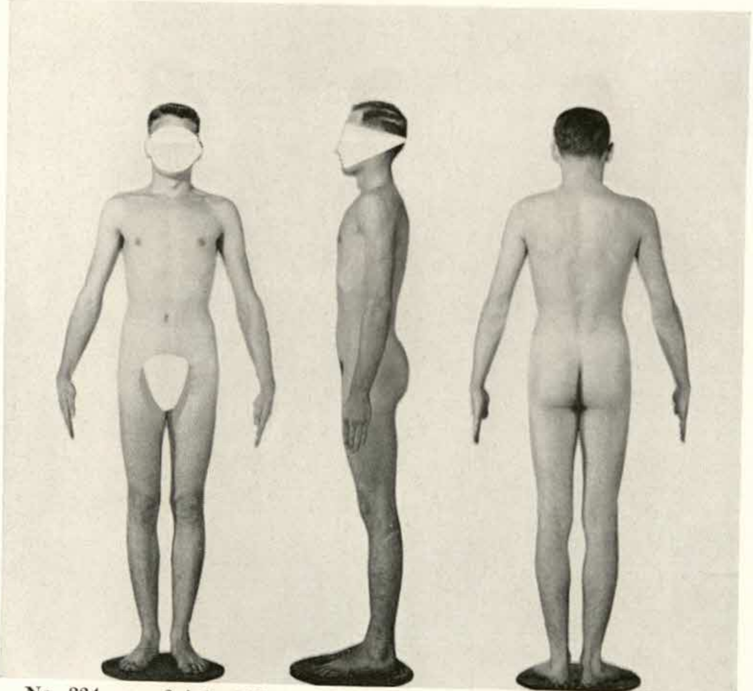


No. 232 *2 4 4* *(11)* 2 4 4–2 5 4 (2 4½ 4) 13.21 at 29
2 4 4, 2 5½ 3½, 2 4½ 4, 2 4 4½, 2½ 4 4

244

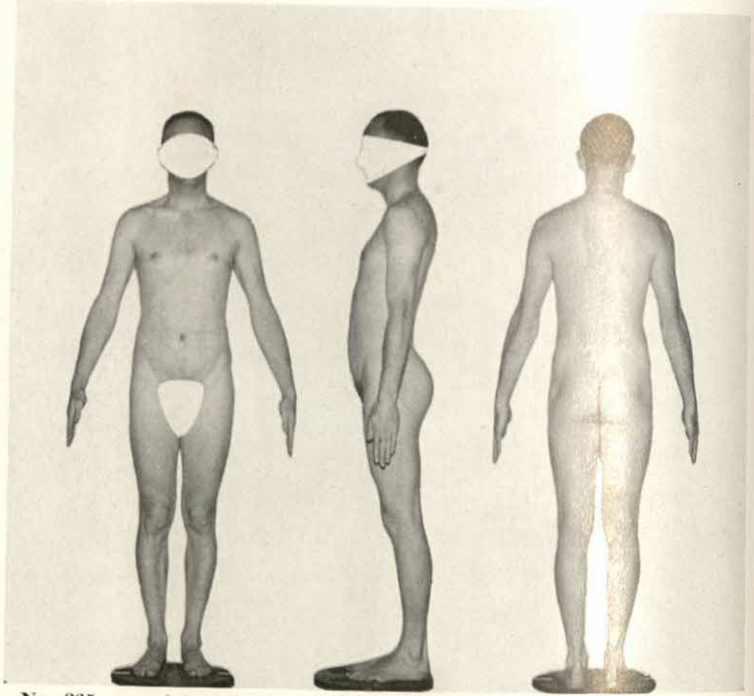


No. 233 *2 4 4* *(12)* 2 4 4–2 5 4 (2 4½ 4) 13.01 at 64
2 5 3½, 2 4½ 4½, 1½ 4 4½, 2 4 4, 1½ 4 4½

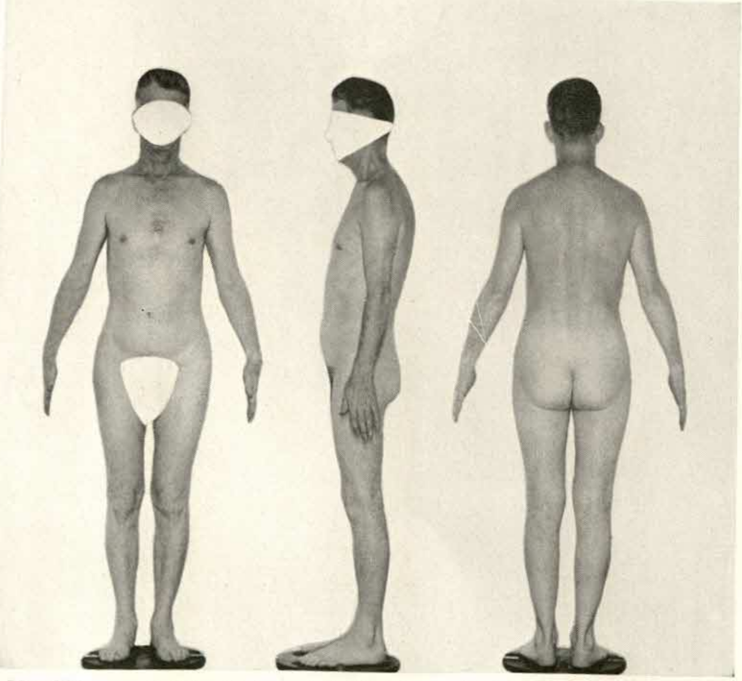


No. 234 *2 4 4* *(13)* 2 4 4–3 3 4 (2½ 3½ 4) 13.54 at 19
2½ 4 3½, 2½ 4 4, 2½ 3 4½, 2½ 3½ 4, 2½ 3½ 4

244

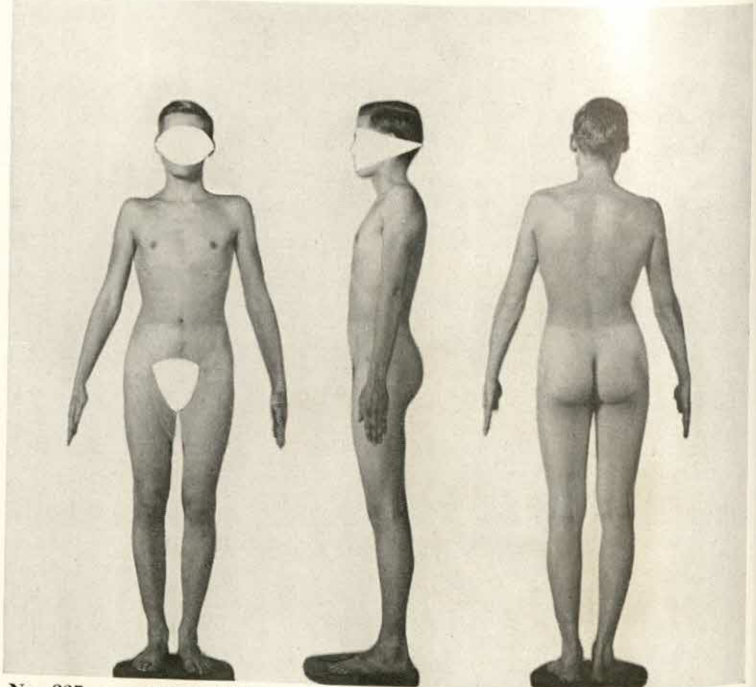


No. 235 *2 4 4* *(14)* 2 4 4–3 3 4 (2½ 3½ 4) 13.13 at 37
2½ 3½ 4, 3 3 4, 2½ 3½ 4, 2½ 3½ 4, 2½ 4 4

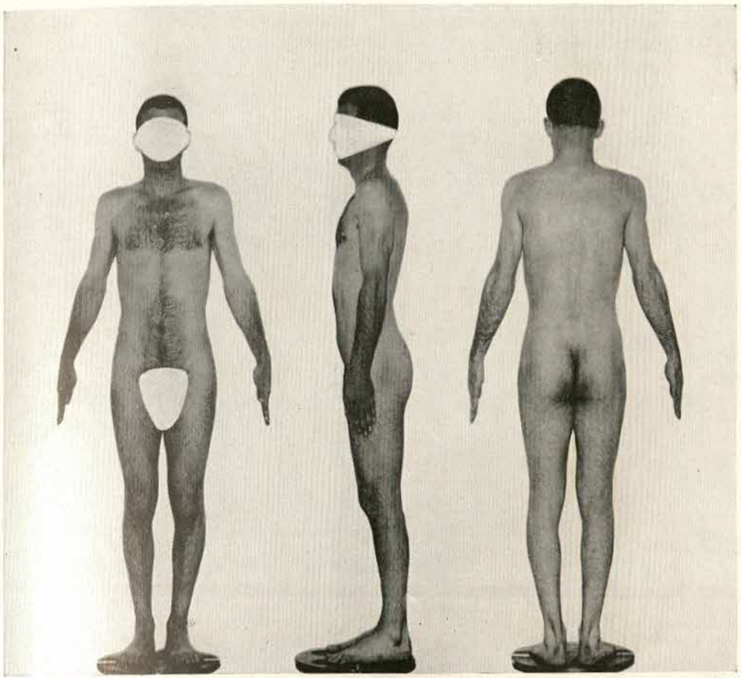


No. 236 *2 4 4* *(15)* 2 4 4–3 3 4 (2½ 3½ 4) 13.01 at 52
2½ 4 4, 2½ 3½ 4, 3 3 4, 2½ 3½ 4, 2½ 4 3½

244

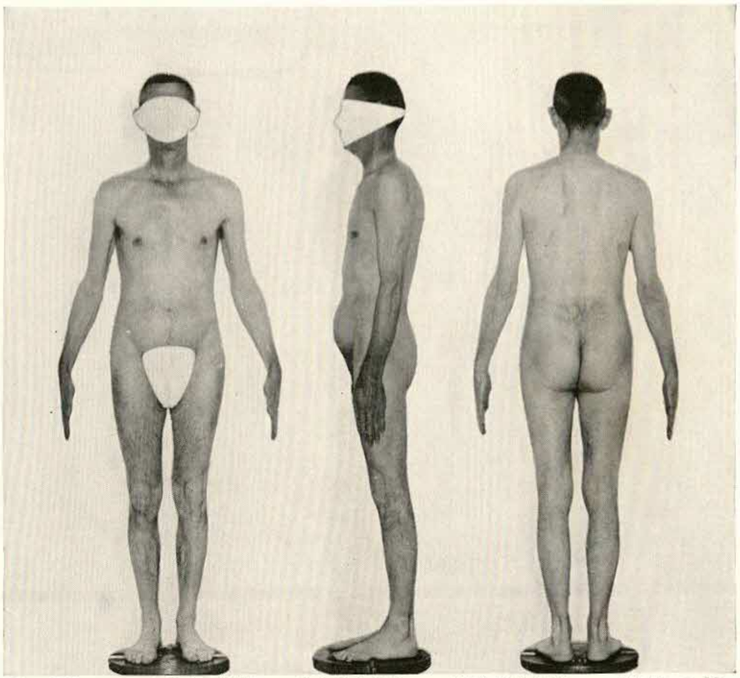


No. 237 *2 4 4* *(16)* 2 4 4–3 3 5 (2½ 3½ 4½) 13.61 at 19
2½ 3½ 4½, 2½ 3½ 4½, 2½ 3 4½, 3 3½ 4, 3 3 4½

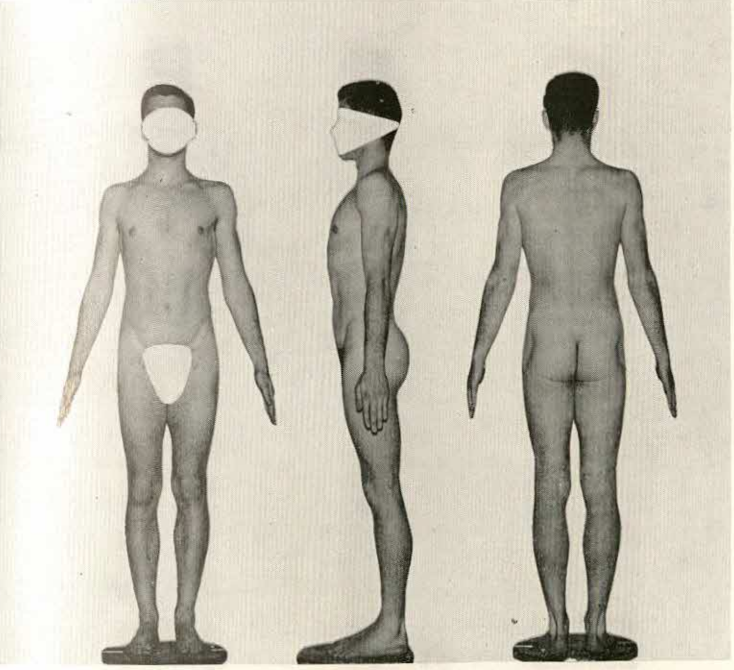


No. 238 *2 4 4* *(17)* 2 4 4–3 3 5 (2½ 3½ 4½) 13.30 at 33
3 3½ 4, 2½ 3½ 4½, 2 4 4, 2 3½ 4½, 2½ 4 4½

244

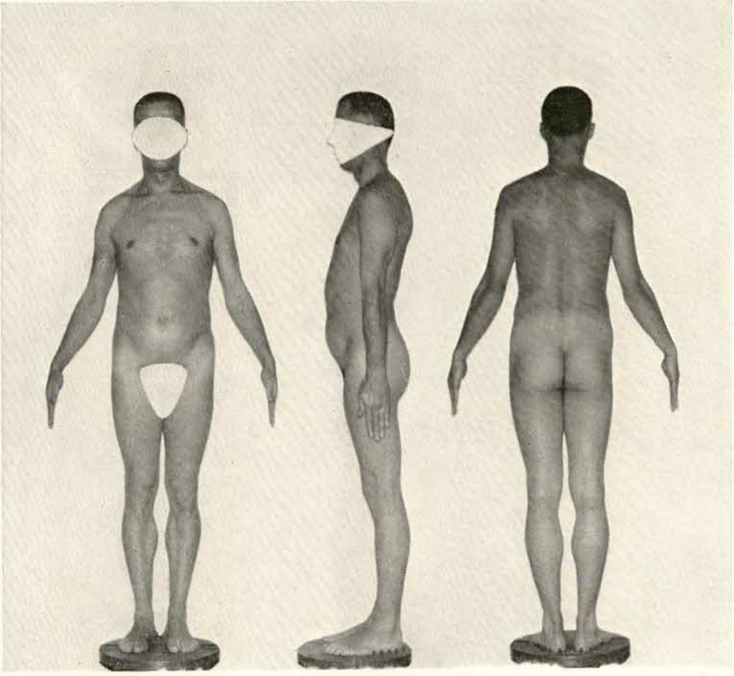


No. 239 *2 4 4* *(18)* 2 4 4–3 3 5 (2½ 3½ 4½) 13.12 at 55
2½ 3½ 4½, 2½ 3½ 4½, 2 3½ 5, 2½ 3½ 4½, 2½ 3 5

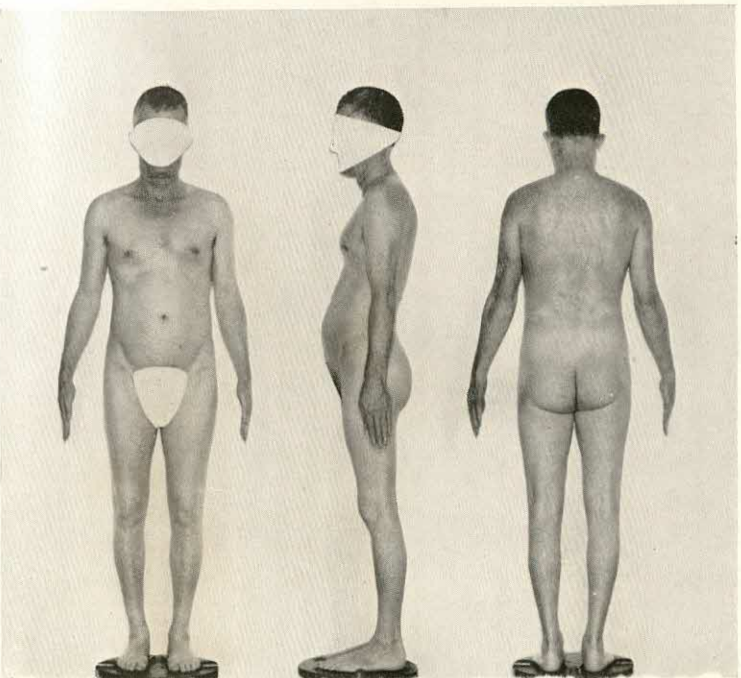


No. 240 *2 4 4* *(19)* 2 4 4–3 4 3 (2½ 4 3½) 13.32 at 20
2½ 4 3½, 2½ 4½ 3, 2½ 4 4, 2½ 4½ 3½, 2½ 4 4

244

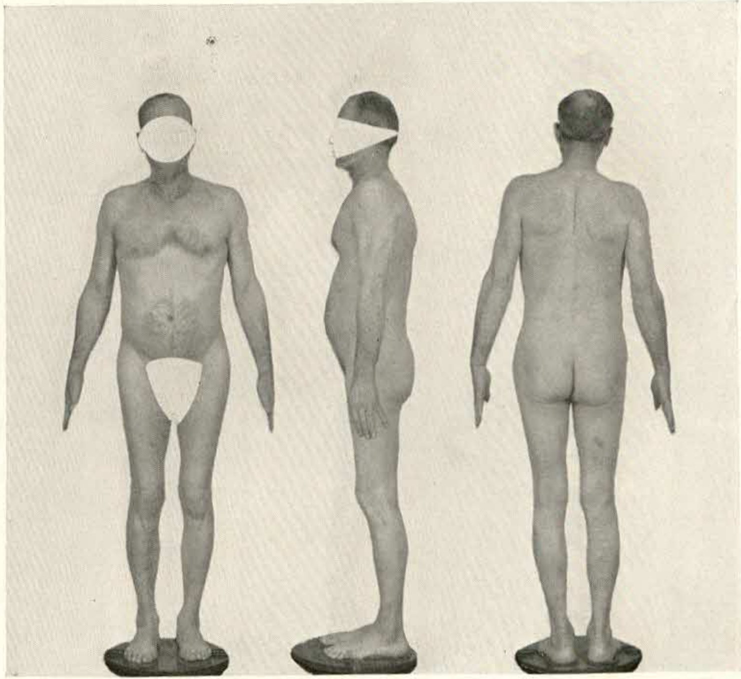


No. 241 *2 4 4* *(20)* 2 4 4–3 4 3 (2½ 4 3½) 12.96 at 38
2½ 4 4, 2½ 3½ 4, 2½ 4 3½, 2½ 4½ 3, 2½ 4½ 4

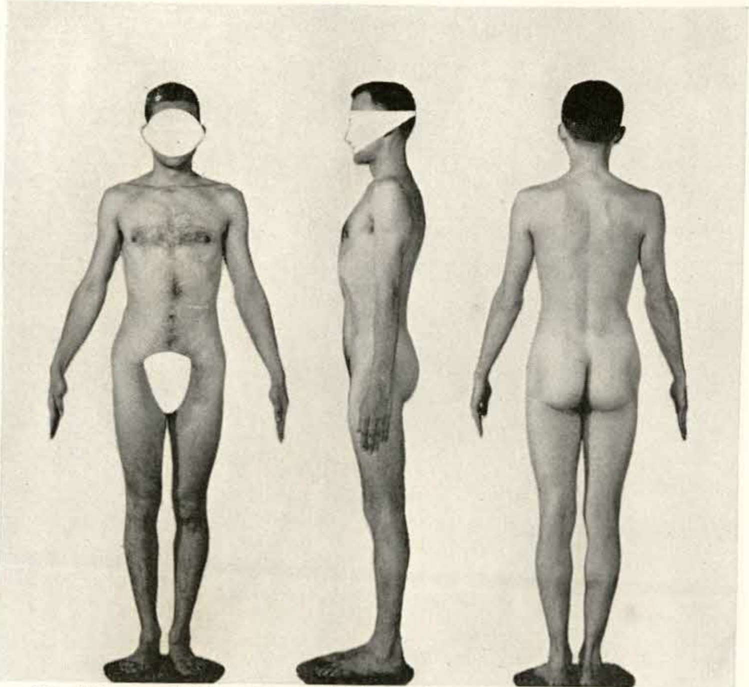


No. 242 *2 4 4* *(21)* 2 4 4–3 4 3 (2½ 4 3½) 12.77 at 53
3 4½ 3½, 2½ 4 3½, 3 4 3, 2½ 4 3½, 2½ 3½ 4

244

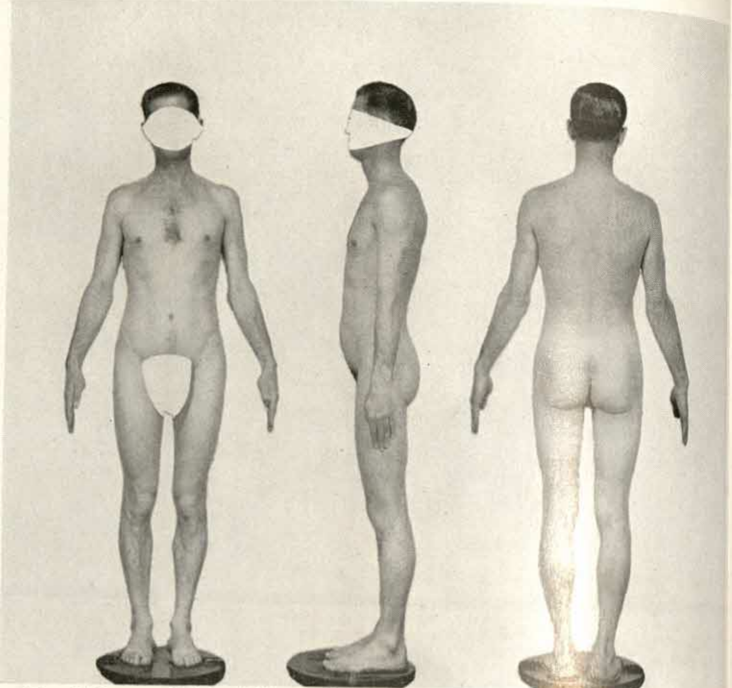


No. 243 *2 4 4* *(22)* 2 4 4–3 4 3 (2½ 4 3½) 12.74 at 62
3 4 3½, 2½ 5 3½, 2½ 4½ 3, 3 4 3, 2½ 3½ 4

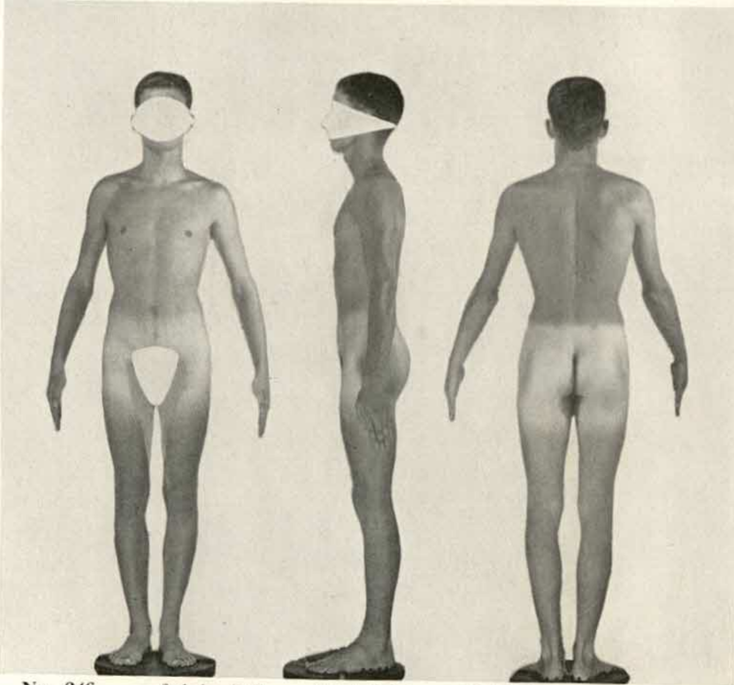


No. 244 *2 4 4* *(23)* 2 4 4–3 4 4 (2½ 4 4) 13.32 at 22
2½ 4½ 4, 2½ 4 4, 2 3½ 4½, 2½ 4 4, 2½ 4½ 4

244

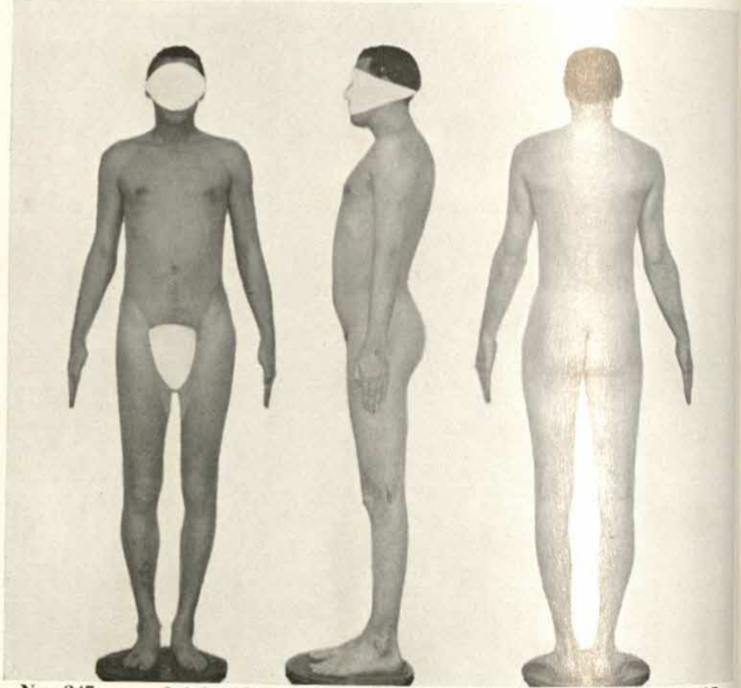


No. 245 *2 4 4* *(24)* 2 4 4–3 4 4 (2½ 4 4) 13.09 at 38
2½ 3½ 4, 2 4 4, 2½ 3½ 4½, 2½ 4 4, 2½ 4 4½

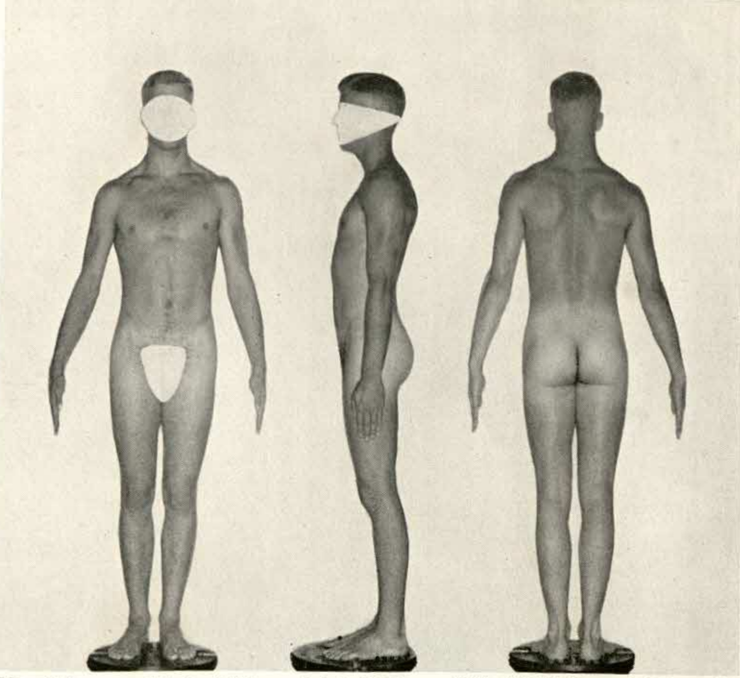


No. 246 *2 4 4* *(25)* 2 4 4–3 4 5 (2½ 4 4½) 13.52 at 19
2½ 4 4½, 2½ 4 4½, 2½ 3½ 4½, 2½ 4 4½, 2½ 4 4½

244

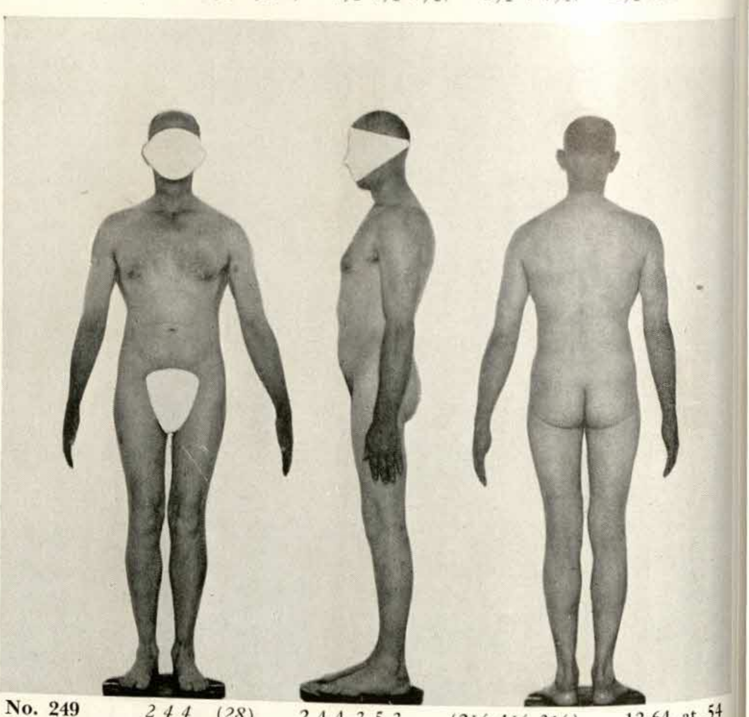


No. 247 *2 4 4* *(26)* 2 4 4–3 4 5 (2½ 4 4½) 13.17 at 37
2 4½ 3½, 2½ 4½ 4, 2½ 3½ 4½, 2½ 4 4½, 2½ 4 5



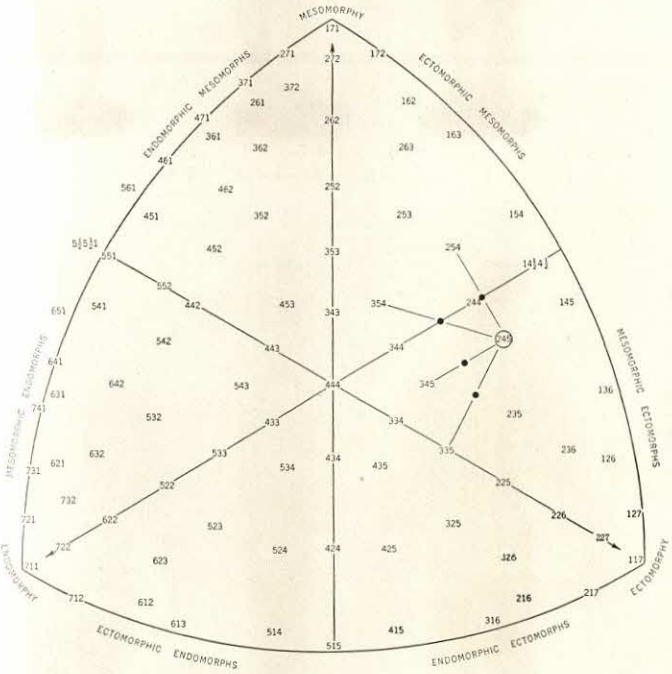
No. 248 *2 4 4* *(27)* 2 4 4–3 5 3 (2½ 4½ 3½) 13.22 at 19
2½ 5 3, 2½ 4½ 4, 2½ 5 3, 2½ 4½ 3½, 2½ 4½ 3½

244

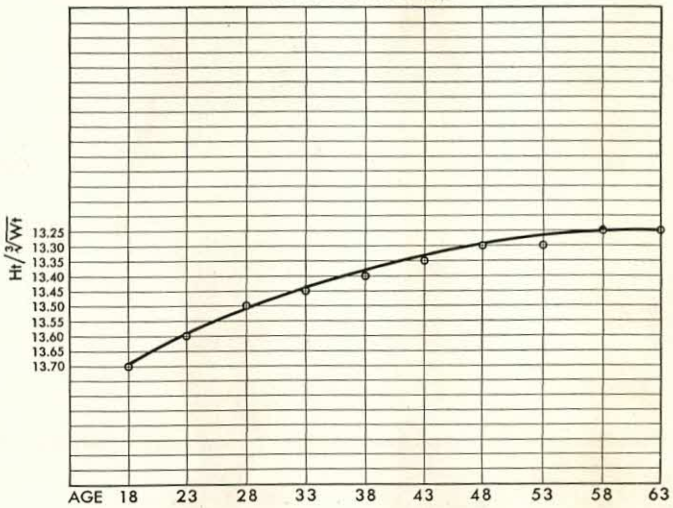


No. 249 *2 4 4* *(28)* 2 4 4–3 5 3 (2½ 4½ 3½) 12.64 at 54
2 4 4, 2½ 5½ 3, 2 5 3, 2½ 4½ 3½, 2½ 4 4

Somatotype 2 4 5 *(Mesomorphic ectomorphy, 11-level.) Greyhounds. Lean, elongated wolves who can run better than they can fight. In nature, greyhounds would hunt "small meat." Nos. 253–260.*



SOMATOTYPE 245



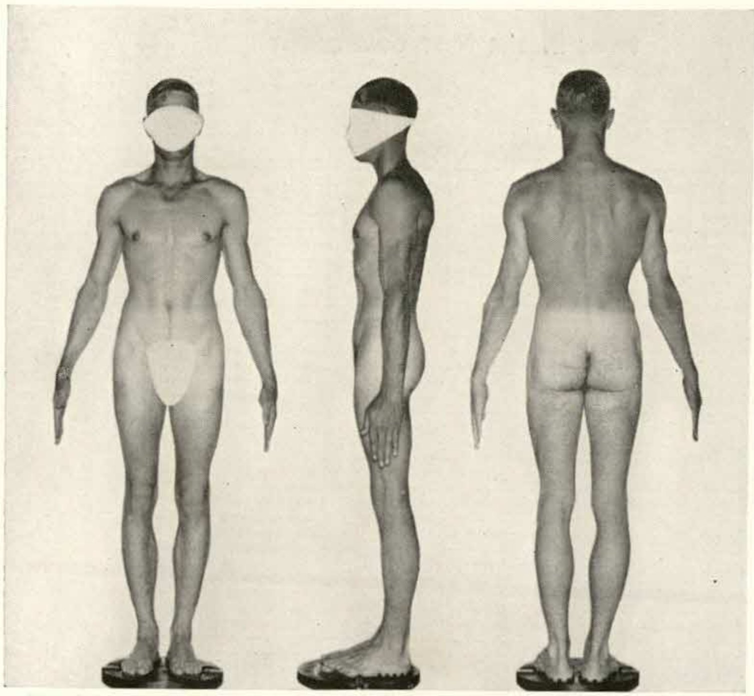
Weight for Age and Height

Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	165	168	171	175	176	178	179	181	182	182
74	158	161	164	167	168	170	171	173	174	174
73	152	155	158	160	162	164	165	166	167	168
72	146	149	152	154	156	157	158	160	161	161
71	140	143	146	148	150	151	152	154	154	155
70	134	137	140	142	144	145	146	147	148	149
69	129	132	134	136	138	139	140	141	142	143
68	123	126	127	130	132	133	134	135	136	137
67	117	119	122	123	125	126	127	128	129	129
66	112	114	116	118	119	120	121	122	123	124
65	107	109	111	112	114	115	116	117	118	118
64	102	104	106	107	109	110	111	111	112	113
63	97	99	101	102	104	105	106	106	107	108
62	93	94	96	98	99	100	101	101	102	103
61	88	90	92	93	94	95	96	96	97	98

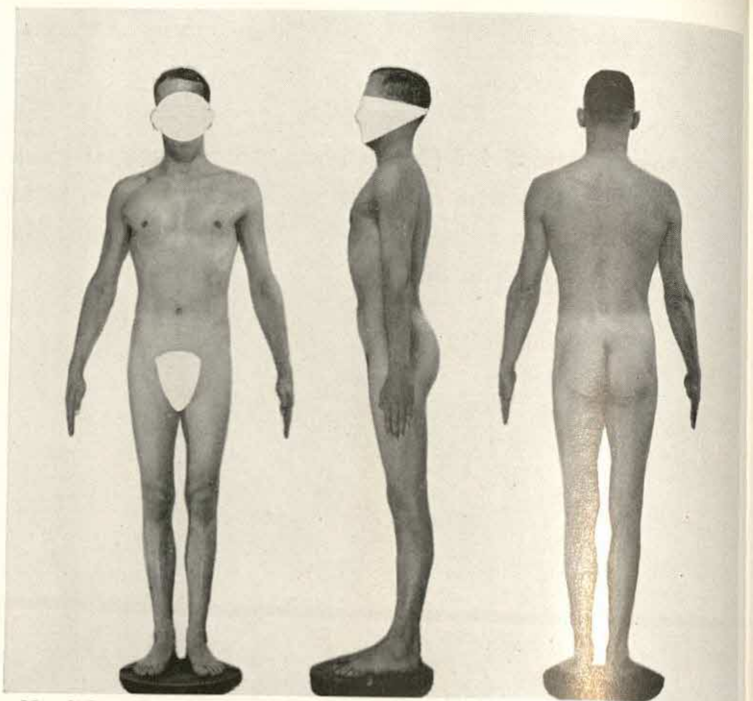
Rarity 2. Incidence 24 per thousand. If the 2 4 4 is the somatotype most frequently seen in general merchandise advertising, the 2 4 5 is the fellow who used to be the Arrow Collar man. This lean face, with chiseled nose and chin and perfectly symmetrical, high *t* component features, was for more than a generation of American life a symbol of young aristocratic masculinity.

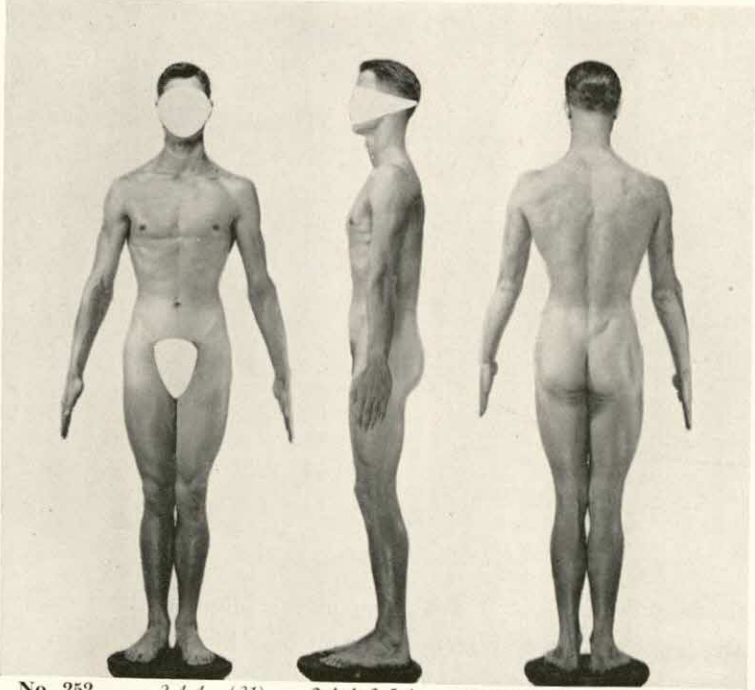
In those days young men with social aspirations wore collars about three inches high, which is only to say that the styles favored ectomorphy. One of the hallmarks of ectomorphy is the long, lean neck, together with a general overexposure of surface. In a very real, biological sense the ectomorph is overly naked. He eagerly welcomes covering up and extra protection here and there, with armor plate as it were. The three-inch collar served both of these functions admirably, and as late as 1915 a 2 4 5 could wear conventionally fashionable clothes, morning or afternoon, which so supported and concealed him that an uninstructed maiden might very well take him for a 2 5 4—or if he swaggered a little, even for a 2 6 3. He could depend, too, on most maidens being uninstructed. In 1900 a 2 4 5 could pass for almost anything he might choose, even at the bathing beaches. But since those nostalgic ectomorphic days there has been an ectopenic revolution. Ask a haberdashery shop salesman today for a collar suitable to a 2 4 5 neck, and you will be able to gauge the present extent of the revolution.

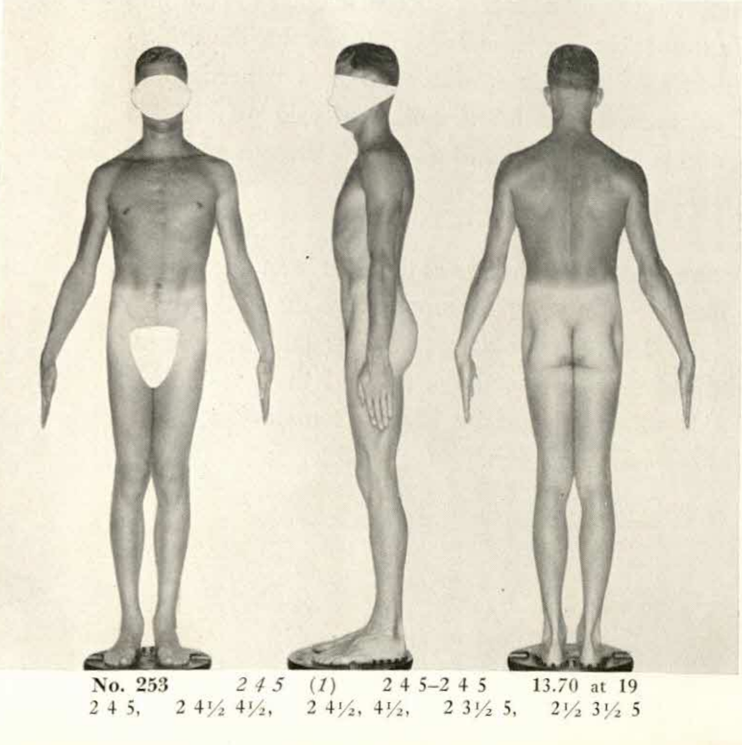
The curve of nutrition indicates that this is another of the long lived somatotypes, for apparently in their middle sixties the 2 4 5's may *as an average* still be gaining weight and may not yet have reached their maximum. Also it is an extraordinarily healthy somatotype, rarely seen in our medical series.


No. 250 *2 4 4* *(29)* 2 4 4–3 5 4 (2½ 4½ 4) 13.18 at 23
2½ 4½ 4, 2½ 5 3½, 2 5 3½, 2 4 4, 2½ 4 4½

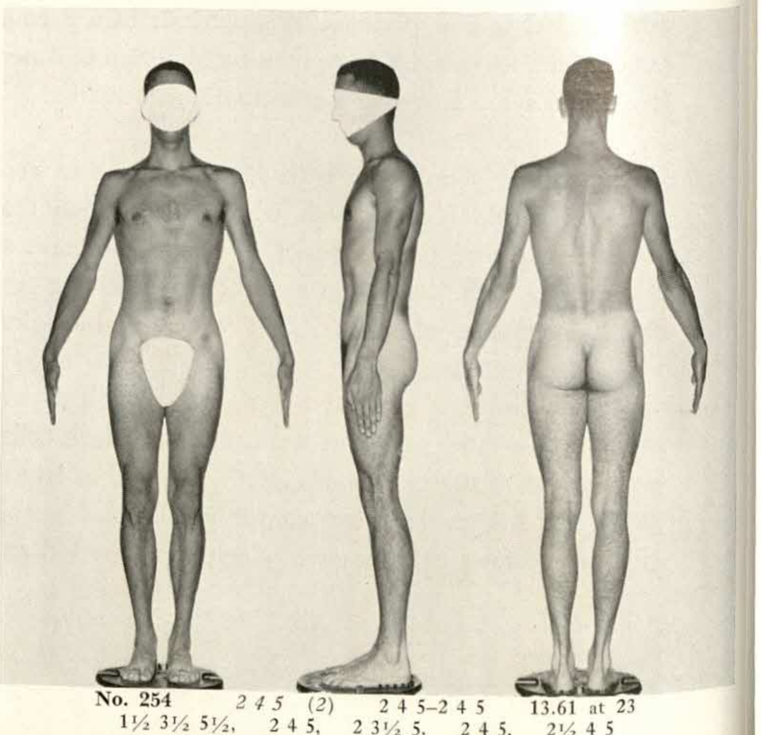
244

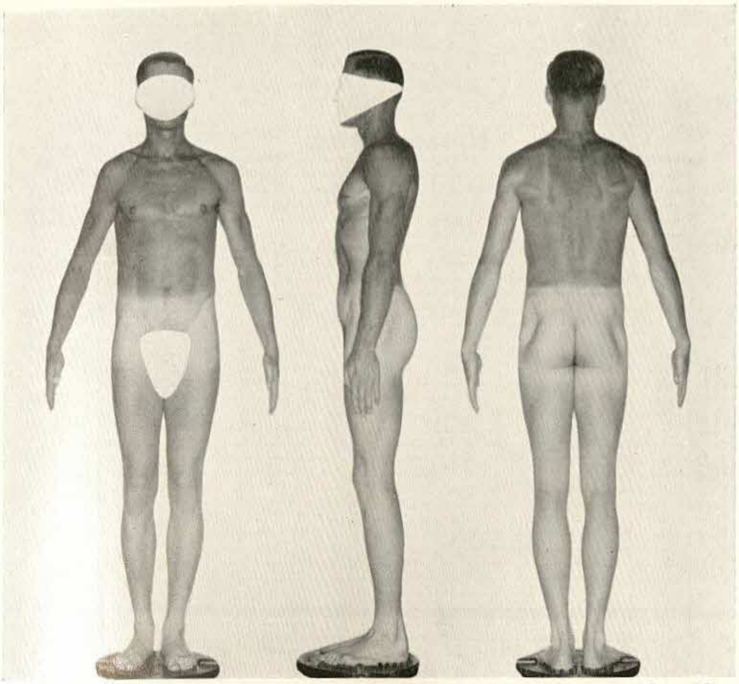

No. 251 *2 4 4* *(30)* 2 4 4–3 5 4 (2½ 4½ 4) 13.23 at 23
2½ 4½ 4, 2½ 5 3½, 2½ 4 4½, 2 4½ 4, 2½ 3½ 5


No. 252 *2 4 4* *(31)* 2 4 4–3 5 4 (2½ 4½ 4) 13.23 at 23
1½ 4½ 4½, 1½ 4½ 4, 2 4½ 4, 2½ 4½ 4, 4 4 3½


No. 253 *2 4 5* *(1)* 2 4 5–2 4 5 13.70 at 19
2 4 5, 2 4½ 4½, 2 4½, 4½, 2 3½ 5, 2½ 3½ 5

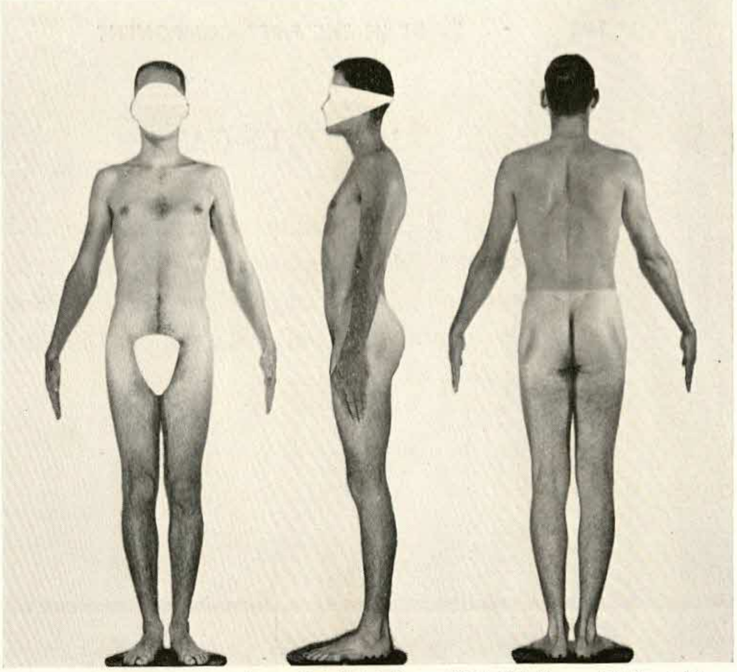
245


No. 254 *2 4 5* *(2)* 2 4 5–2 4 5 13.61 at 23
1½ 3½ 5½, 2 4 5, 2 3½ 5, 2 4 5, 2½ 4 5

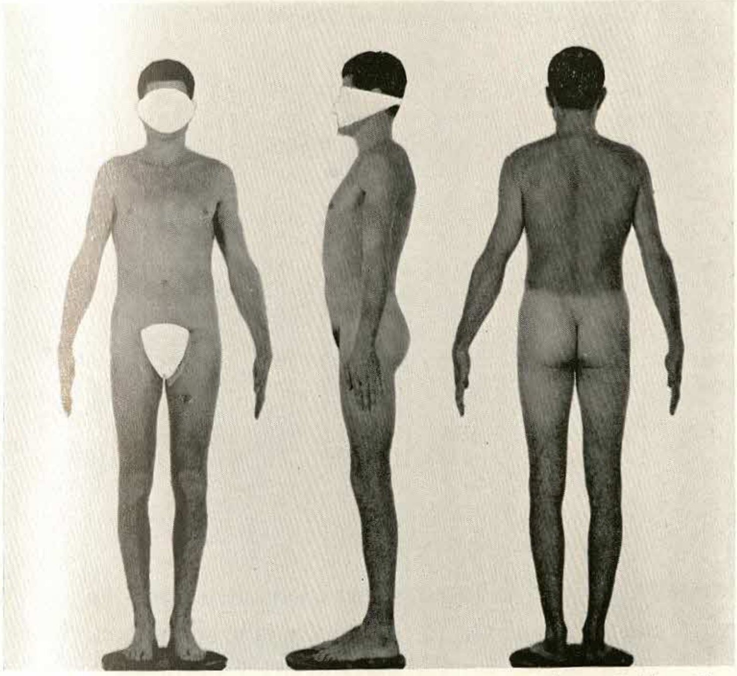


No. 255 *2 4 5* (*3*) 2 4 5–2 5 4 (2 4½ 4½) 13.45 at 23
2 4½ 4½, 2 4 4½, 2 4½ 4, 2 4½ 4½, 2½ 4½ 4½

245

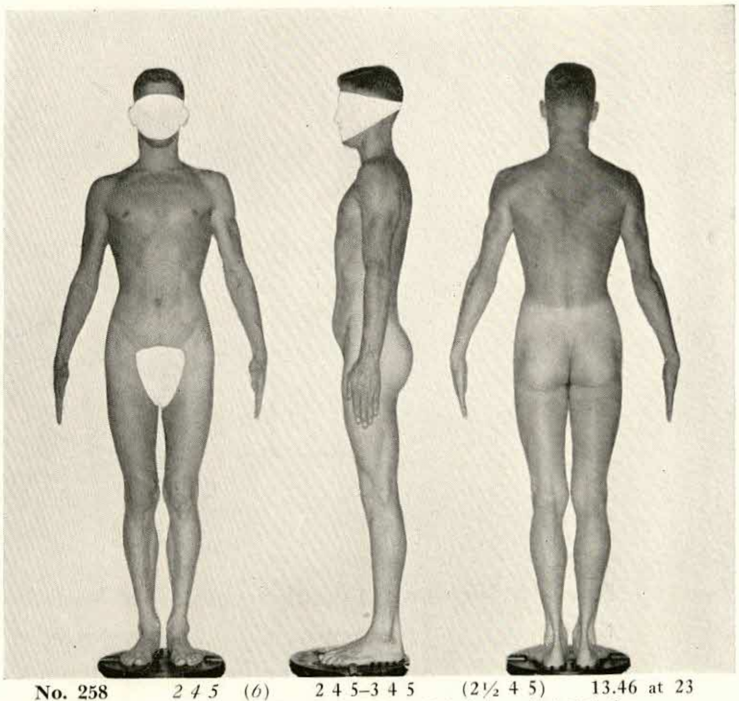


No. 256 *2 4 5* (*4*) 2 4 5–3 3 5 (2½ 3½ 5) 13.72 at 18
2½ 3 5, 2½ 3½ 5, 3 3½ 5, 2½ 3½ 5, 3 3½ 4½

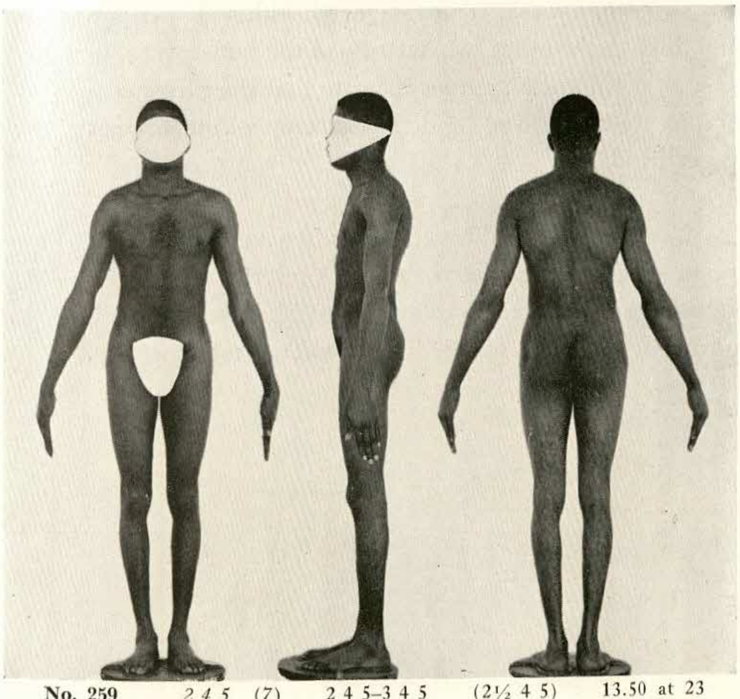


No. 257 *2 4 5* (*5*) 2 4 5–3 3 5 (2½ 3½ 5) 13.32 at 39
2½ 3½ 4½, 2½ 3½ 5, 2½ 3½ 4½, 2½ 4 5, 2½ 3 5

245

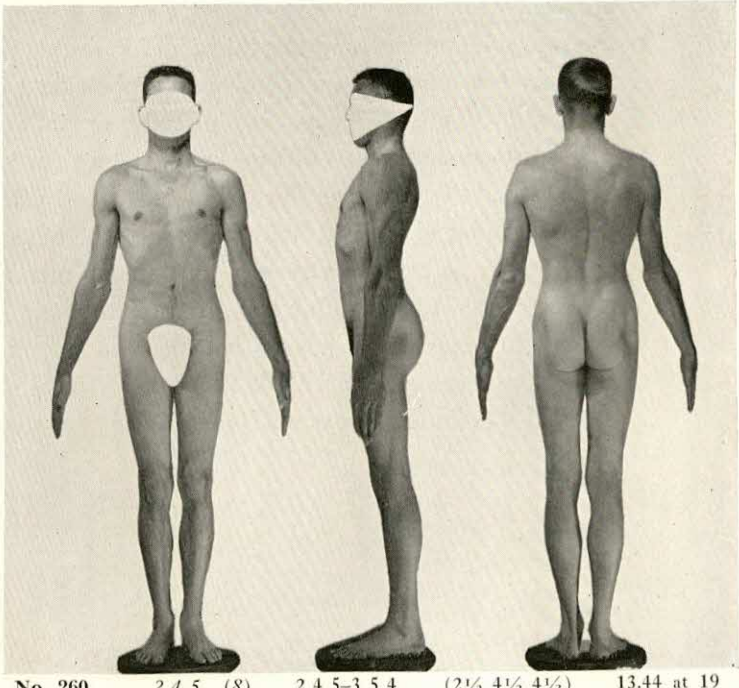


No. 258 *2 4 5* (*6*) 2 4 5–3 4 5 (2½ 4 5) 13.46 at 23
2½ 4 5, 2½ 4 5, 2½ 4 5, 2½ 4 5, 2½ 3½ 5



No. 259 *2 4 5* (*7*) 2 4 5–3 4 5 (2½ 4 5) 13.50 at 23
2½ 5½ 3, 2½ 3½ 5, 2½ 3½ 5, 2 3½ 5, 2½ 3 6

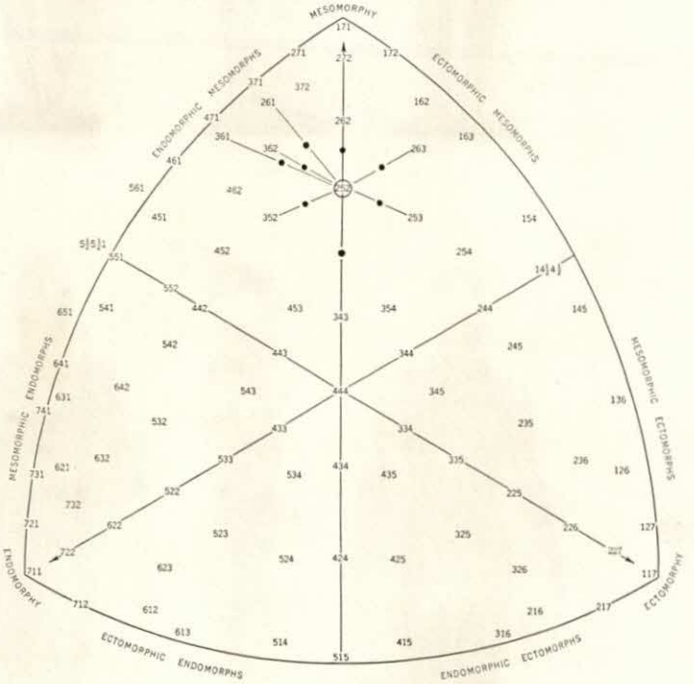
245



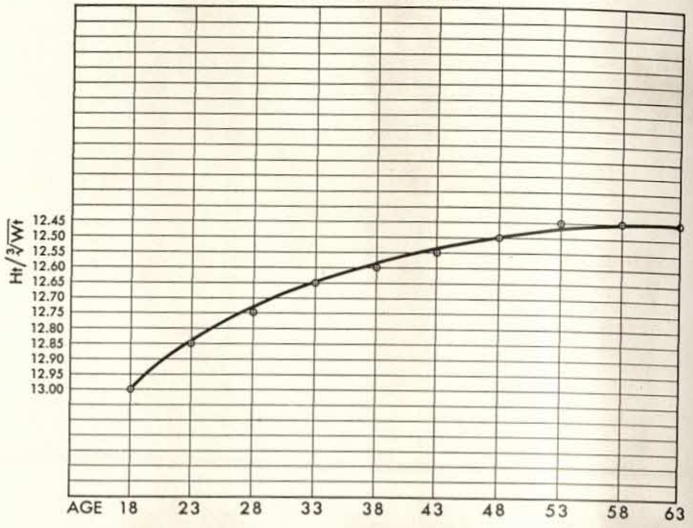
No. 260 *2 4 5* (*8*) 2 4 5–3 5 4 (2½ 4½ 4½) 13.44 at 19
2½ 4½ 4, 2½ 4½ 4½, 2½ 4½ 4½, 2½ 4½ 4½, 2½ 3½ 5½

12. LITTLE CATS

Somatotype 2 5 2 *(Balanced mesomorphy, 9-level.) Little tomcats. Lithe, compact, self-sufficient predators who can make their own way and can kill their own meat with help from nobody, and can do it even in the teeming cities. Nos. 261–287.*



SOMATOTYPE 252



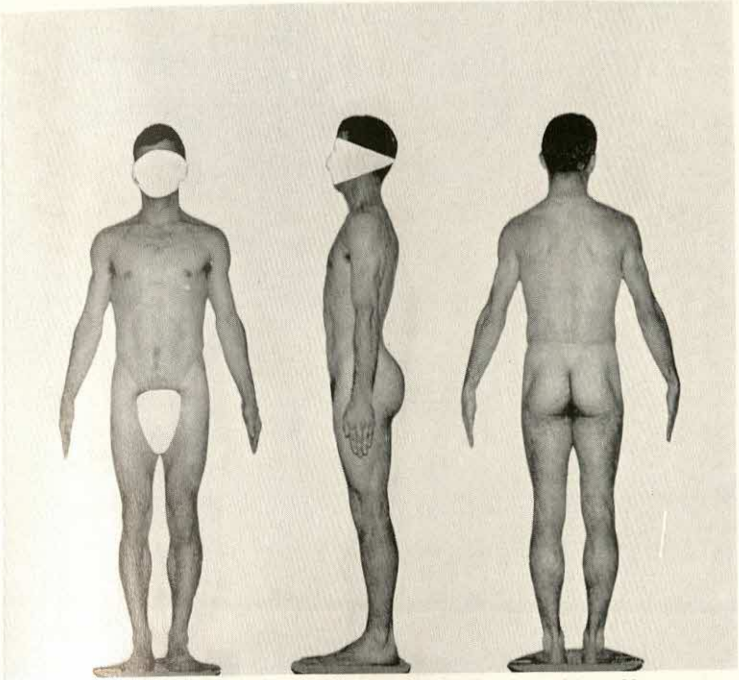
Weight for Age and Height

Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	191	199	203	208	214	215	216	219	219	220
74	182	190	194	199	205	206	207	210	210	211
73	176	182	187	191	197	197	199	202	202	202
72	169	175	180	183	189	190	191	194	194	194
71	162	168	172	175	180	181	183	185	185	186
70	155	161	165	168	173	174	175	178	178	178
69	149	154	158	162	166	167	168	170	170	171
68	142	148	151	155	159	160	161	163	163	164
67	136	141	144	148	152	153	154	156	156	157
66	130	135	138	141	145	146	147	149	149	150
65	124	129	132	135	138	139	140	142	142	143
64	118	123	126	128	132	133	134	135	135	136
63	113	117	120	122	125	127	128	129	129	130
62	108	112	114	117	120	121	122	123	123	124
61	103	106	109	111	114	115	116	117	117	118

Rarity 3. Incidence 4 per thousand. The least scarce of the 9-totals, and also apparently the longest lived of this group of 12 peripheral or borderline somatotypes. The curve of nutrition indicates that the average 2 5 2 is by no means senile in his early sixties, as are so many of the rare somatotypes, and this raises an interesting point. At least two partially independent morphologic factors appear to influence longevity, directly or indirectly. These are somatotype (or shape) and stature (or size). Somatotypically, the long lived men seem most often to be the slender endopenes, with neither of the other two components at extreme strength, and among men there seems to be a tendency for one group of the long lived fellows to approach a balance between the second and third components. Thus 2 4 4, 2 4 5, 2 5 4, 3 4 4, 3 4 5 and 3 5 4 include many of our longest lived male somatotypes.

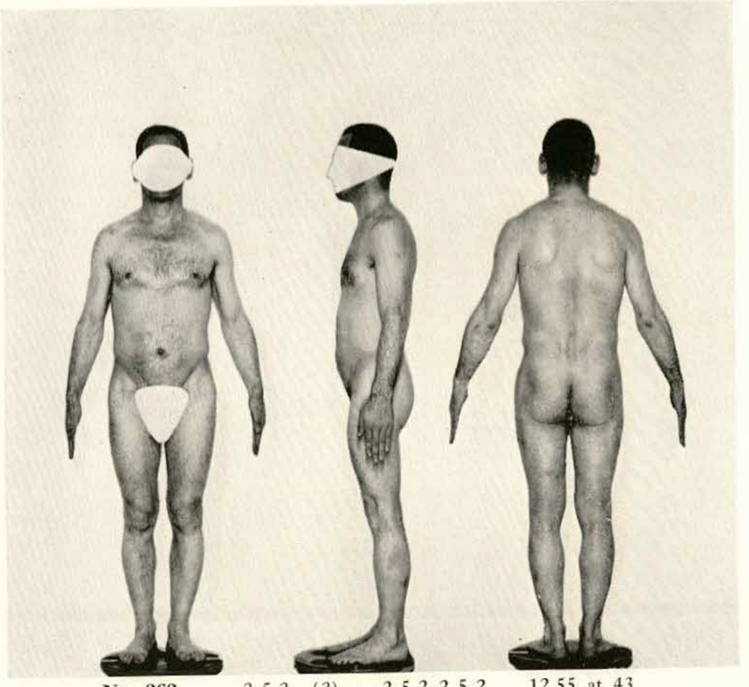
Staturally, there is a long recognized tendency for the *shorter* men to live longer, if somatotype is held constant. A 3 4 4 of 67 inches is more likely to live into the ninth decade than is a 3 4 4 of 73 inches. A third factor which seems also to be related to longevity, although perhaps only through the other two, is *rarity* of the somatotype. In general, the nutrition curves indicate that the rare somatotypes are short lived, and the commoner somatotypes longer lived.

The 2 5 2 is nearly always short, often very short. His apparent longevity suggests that *one* prescription for long life may be contained in the formula: Short stature with sturdy mesomorphy which is not extreme mesomorphy.

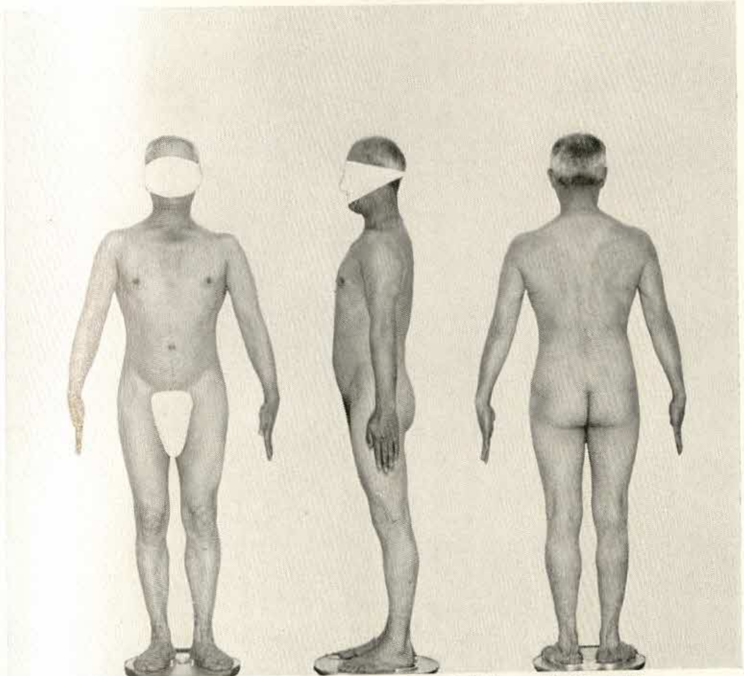


No. 261 *2 5 2* (*1*) 2 5 2–2 5 2 12.95 at 20
2½ 5 2, 2 5 2, 2½ 4½ 2½, 2 5 2, 2 5 2½

252

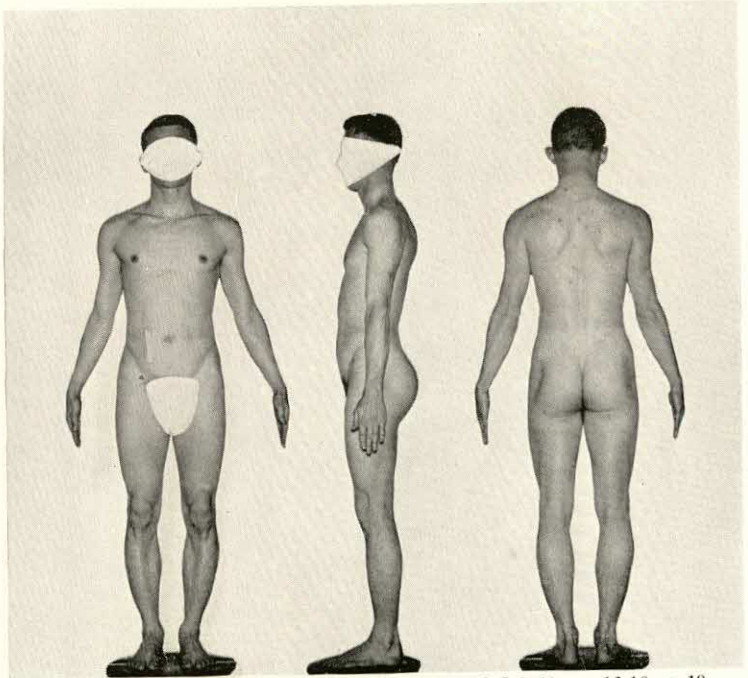


No. 262 *2 5 2* (*2*) 2 5 2–2 5 2 12.55 at 43
2 5 2, 2 5 2, 2 5 2, 2 5 2, 2½ 5 1½

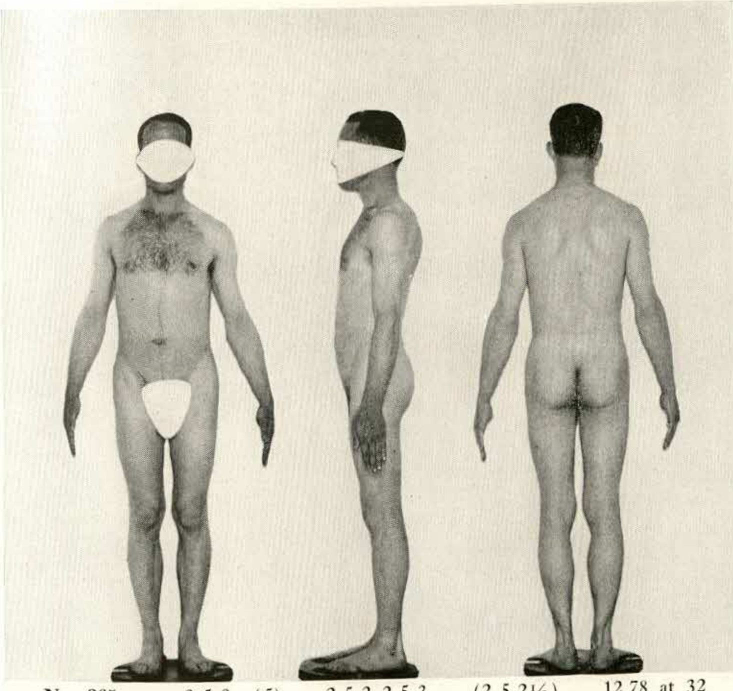


No. 263 *2 5 2* (*3*) 2 5 2–2 5 2 12.47 at 50
2 5 2, 2 5 2, 2 4½ 2½, 2 5 2, 2 5 2½

252

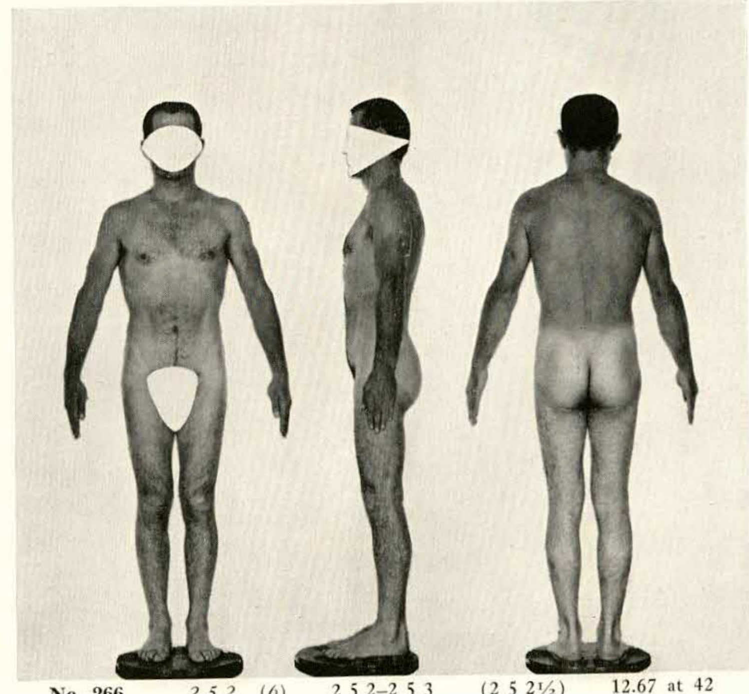


No. 264 *2 5 2* (*4*) 2 5 2–2 5 3 (2 5 2½) 13.10 at 19
2 5 2½, 2 5 2½, 2½ 4½ 2½, 2 5 3, 2 5 2

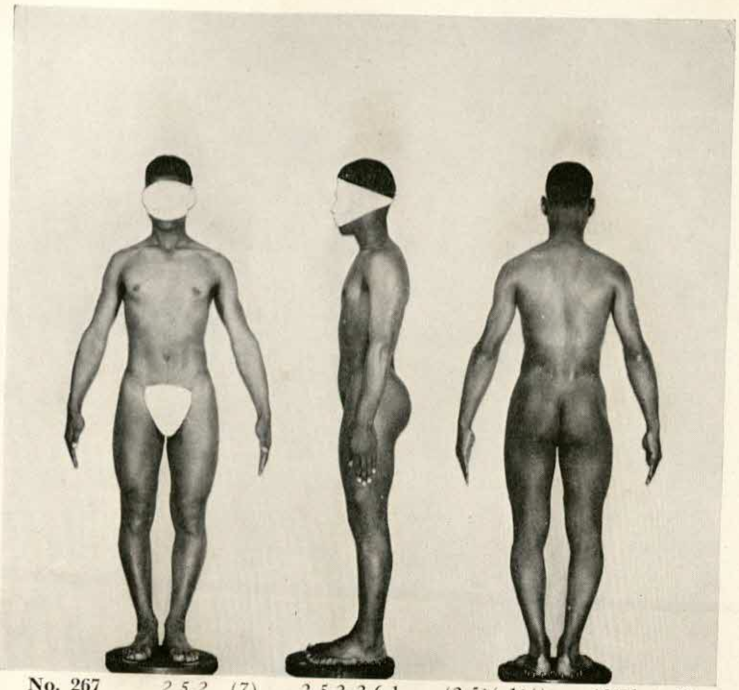


No. 265 *2 5 2* (*5*) 2 5 2–2 5 3 (2 5 2½) 12.78 at 32
2 5 2, 2 5 2½, 2 5 2½, 2 5 2½, 2 5 2½

252

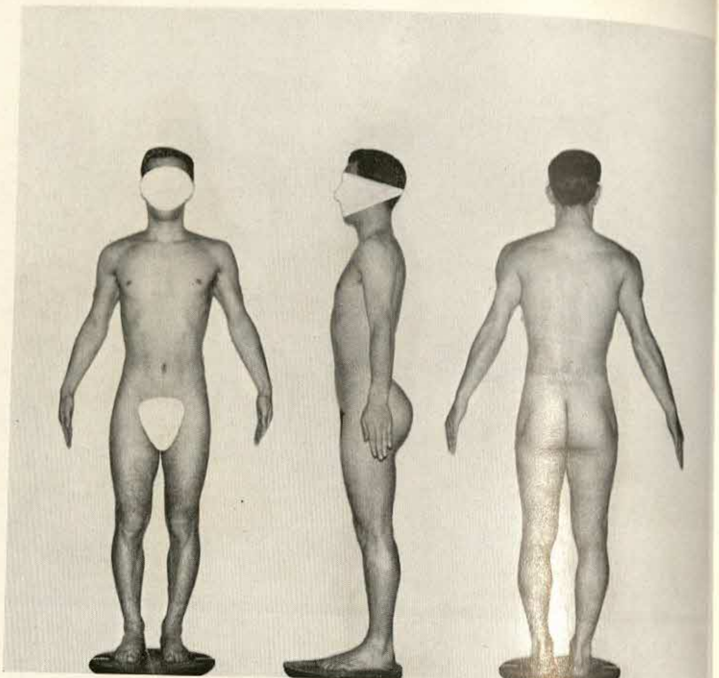


No. 266 *2 5 2* (*6*) 2 5 2–2 5 3 (2 5 2½) 12.67 at 42
2 5 2, 2 5 3, 2 5 2, 2 5 2½, 2 5 2½

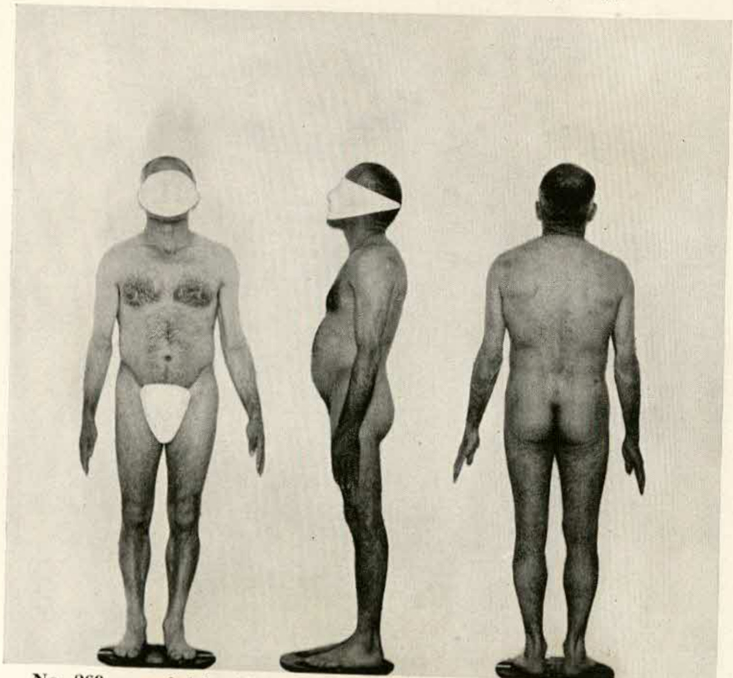


No. 267 *2 5 2* (*7*) 2 5 2–2 6 1 (2 5½ 1½) 12.75 at 18
2 5 2, 2 5 2, 2 5½ 1½, 2 5½ 1½, 2½ 6 1½

252

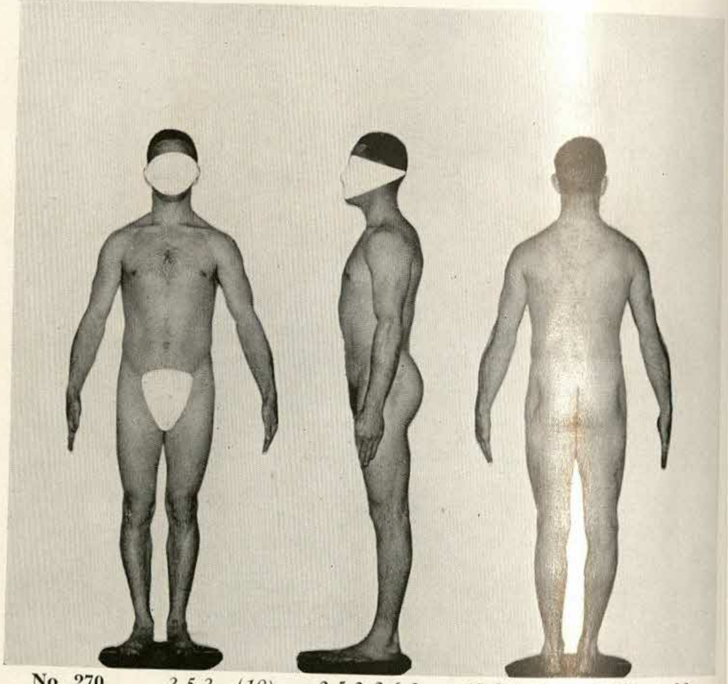


No. 268 *2 5 2* (*8*) 2 5 2–2 6 1 (2 5½ 1½) 12.64 at 22
2½ 5 1½, 2 5½ 2, 2½ 5 1½, 2 5½ 2, 2 6 1½

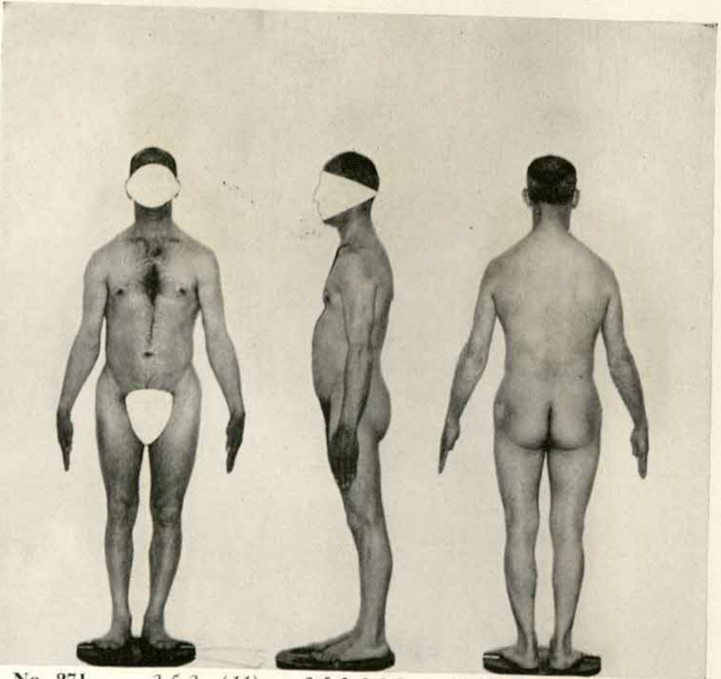


No. 269 *2 5 2* (*9*) 2 5 2–2 6 1 (2 5½ 1½) 12.18 at 59
2 6 1½, 2 6 1½, 2½ 4½ 2, 2 5½ 1½, 2 5½ 2

252

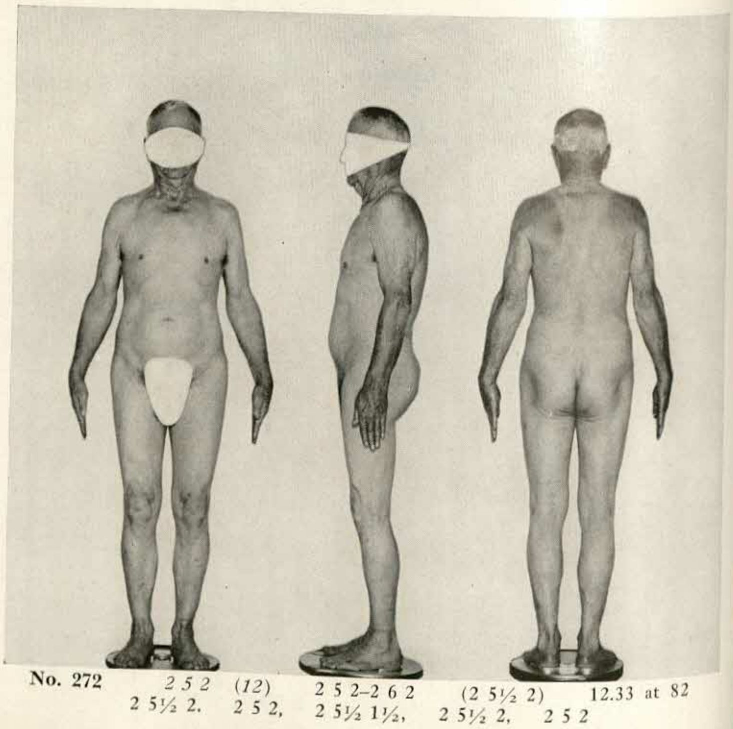


No. 270 *2 5 2* (*10*) 2 5 2–2 6 2 (2 5½ 2) 12.50 at 33
2 5½ 2½, 2 6 1½, 2 6 2, 2 5½ 2, 2 5½ 2

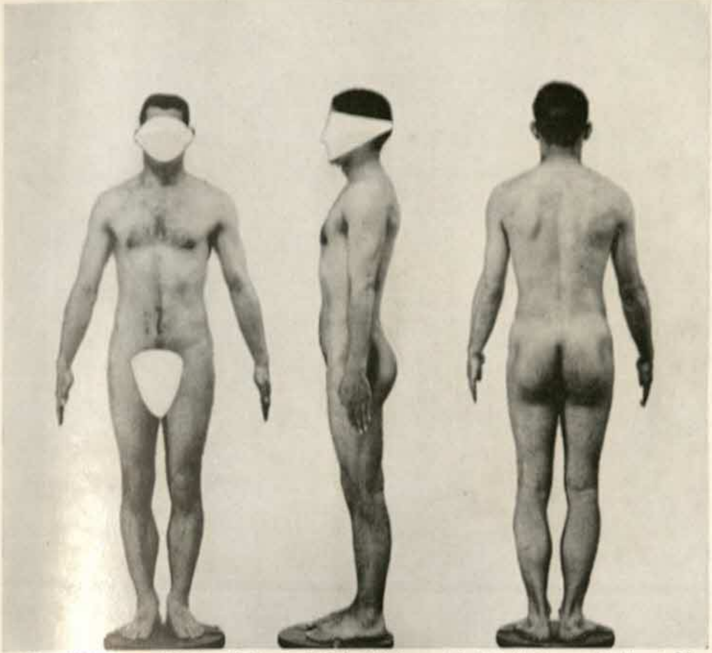


No. 271 *2 5 2* (*11*) 2 5 2–2 6 2 (2 5½ 2) 12.50 at 58
1½ 5½ 2, 2 6 1½, 2 5½ 2, 1½ 5½ 2, 2 5 2

252

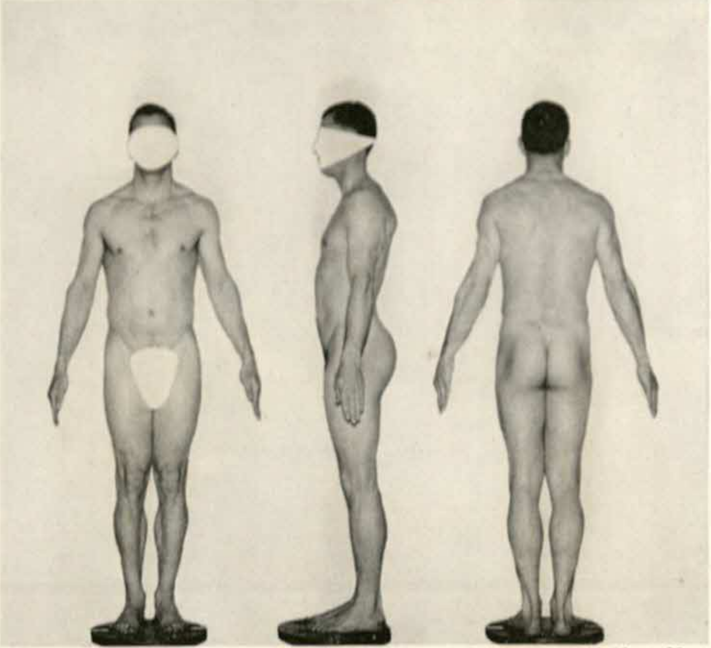


No. 272 *2 5 2* (*12*) 2 5 2–2 6 2 (2 5½ 2) 12.33 at 82
2 5½ 2. 2 5 2, 2 5½ 1½, 2 5½ 2, 2 5 2

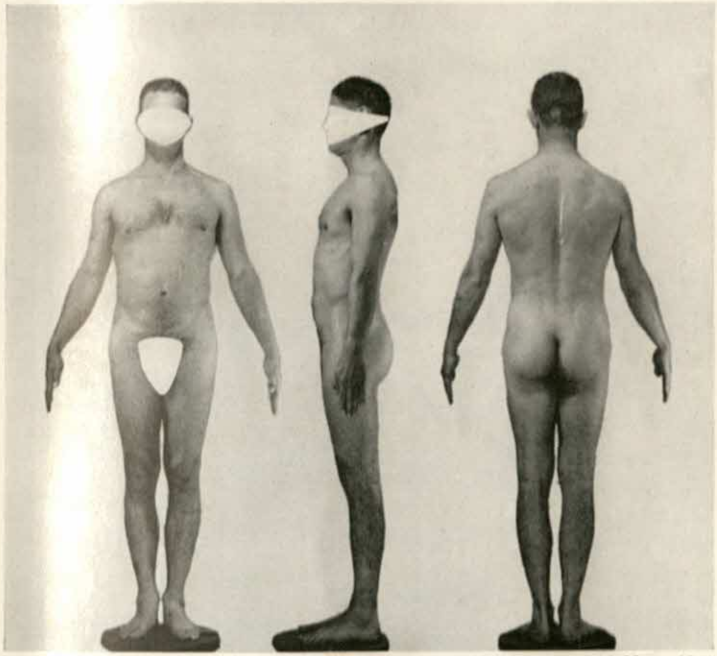


No. 273 *2 5 2* *(13)* 2 5 2–2 6 3 (2 5½ 2½) 12.81 at 23
2 5½ 2, 2 5½ 2½, 2 5½ 2½, 2 5½ 2½, 2 6 2

252

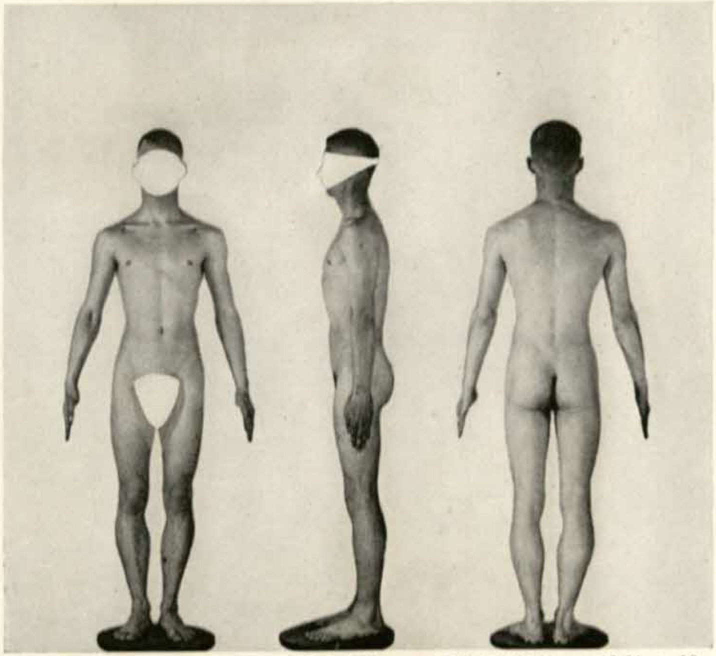


No. 274 *2 5 2* *(14)* 2 5 2–2 6 3 (2 5½ 2½) 12.63 at 32
2 6 2½, 2 5 3, 2 5½ 2½, 2 5½ 2½, 2½ 5½ 2½

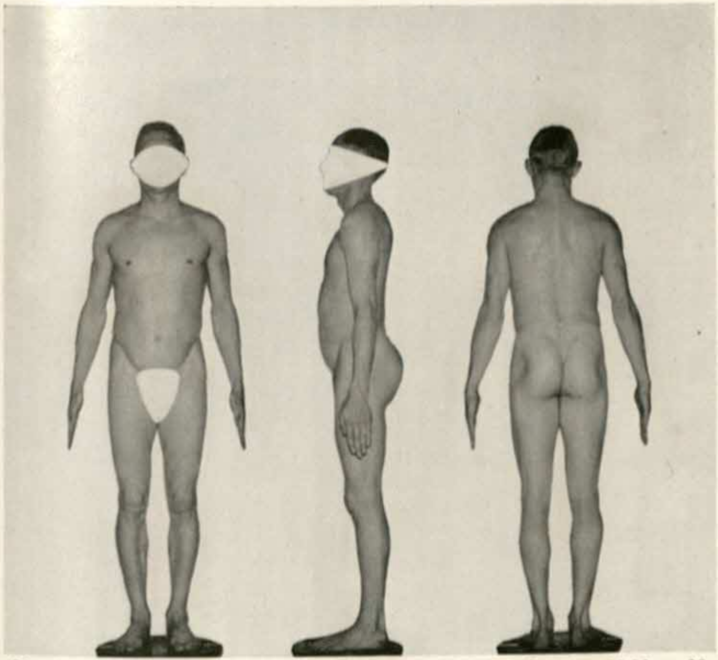


No. 275 *2 5 2* *(15)* 2 5 2–2 6 3 (2 5½ 2½) 12.55 at 41
2 5½ 2½, 2 6 2, 2 5½ 2½, 2 5½ 2½, 2½ 5 3

252

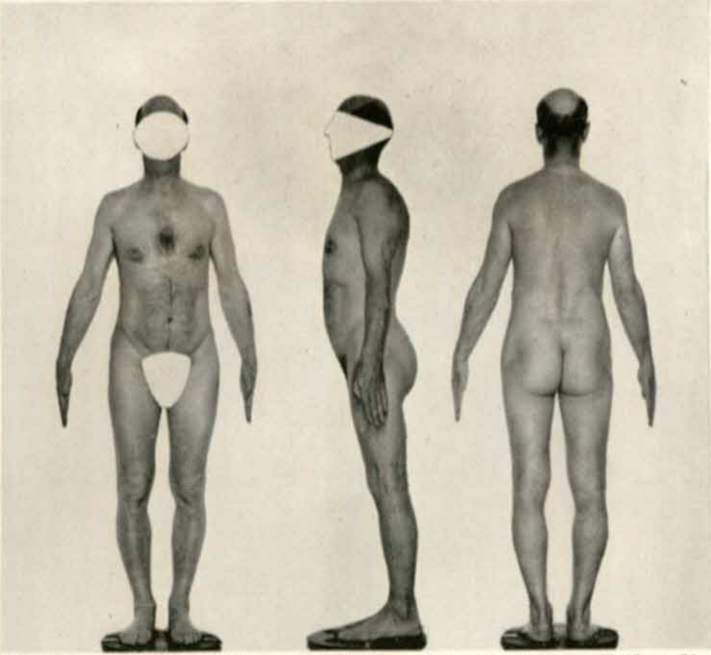


No. 276 *2 5 2* *(16)* 2 5 2–3 4 3 (2½ 4½ 2½) 13.11 at 18
2½ 4½ 2½, 2½ 4½ 2½, 3 4 3, 2½ 4 2½, 2½ 4½ 2½

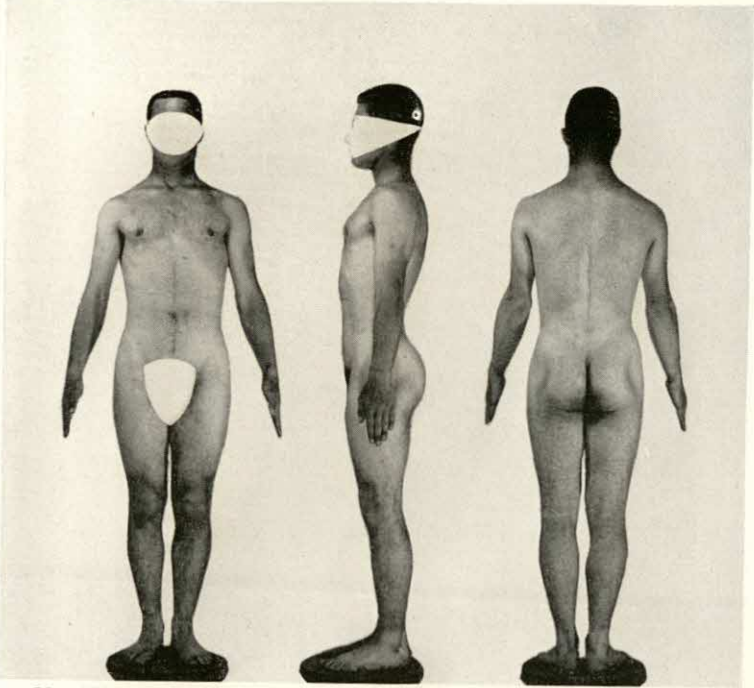


No. 277 *2 5 2* *(17)* 2 5 2–3 4 3 (2½ 4½ 2½) 12.83 at 28
3½ 4½ 2, 2½ 4½ 3, 2½ 4½ 3, 2½ 4½ 2½, 2½ 4½ 3

252

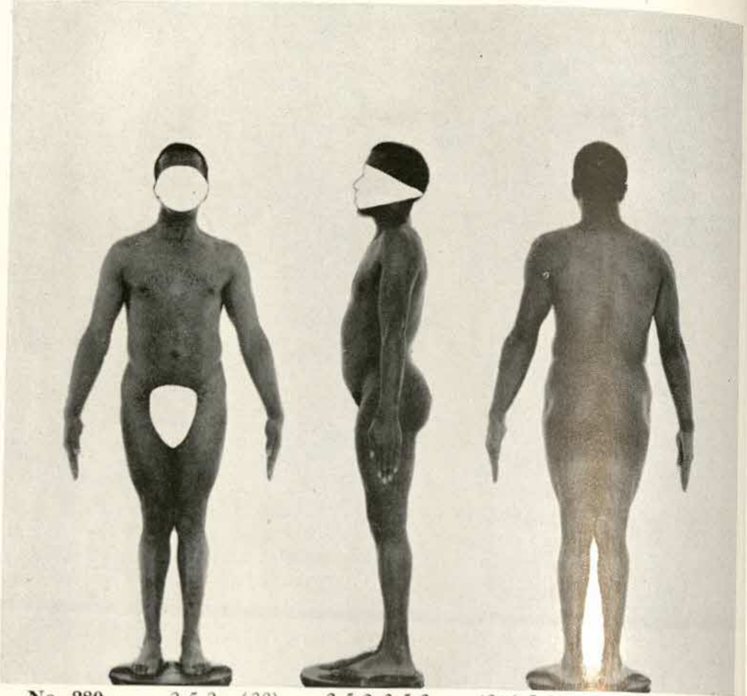


No. 278 *2 5 2* *(18)* 2 5 2–3 4 3 (2½ 4½ 2½) 12.48 at 54
3 4½ 2½, 2½ 4½ 2½, 2½ 5 2, 2½ 5 2½, 2½ 4½ 2½

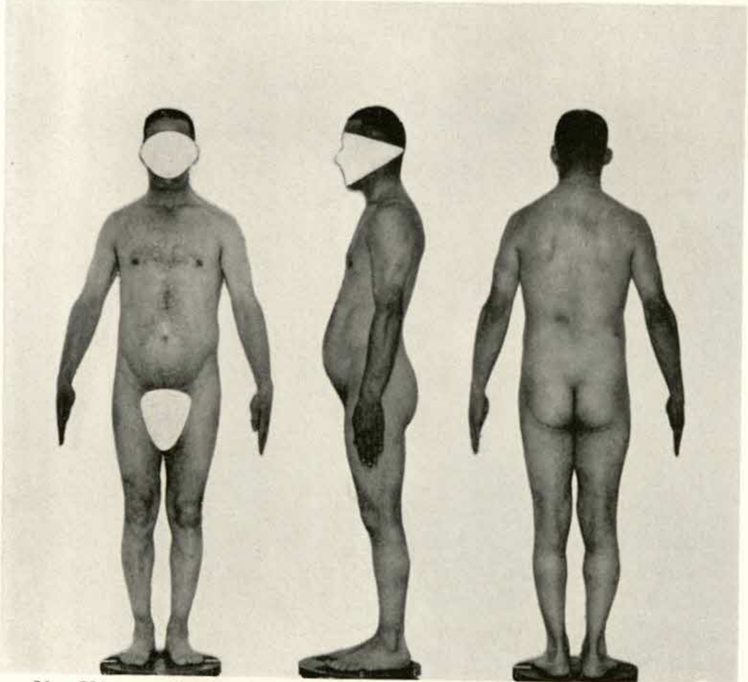


No. 279 *2 5 2 (19)* 2 5 2–3 5 2 (2½ 5 2) 12.87 at 20
3 5 2, 2½ 5½ 2, 2½ 5 2, 2½ 5½ 2½, 3 5½ 1½

252

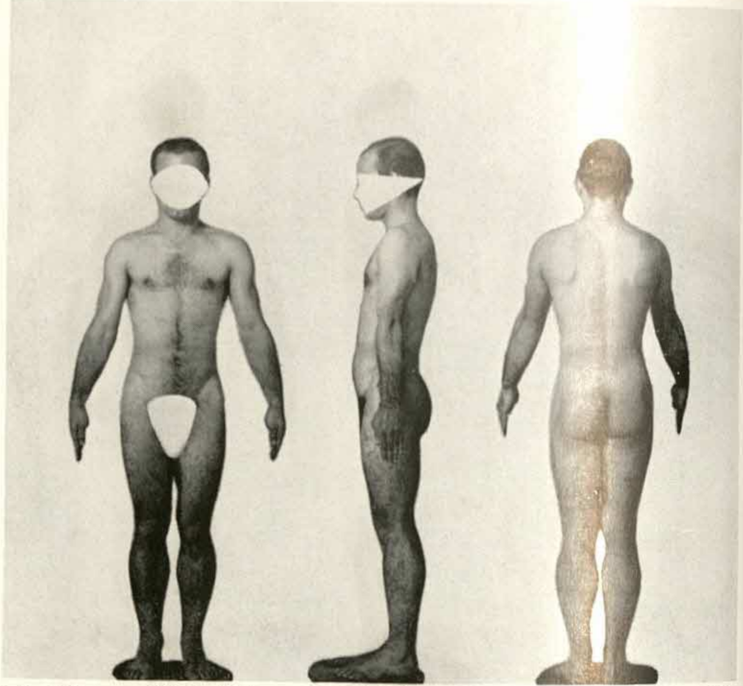


No. 280 *2 5 2 (20)* 2 5 2–3 5 2 (2½ 5 2) 12.34 at 42
2½ 5½ 1½, 2½ 5 2½, 2½ 5 3, 2½ 5½ 1½, 3½ 4½ 2

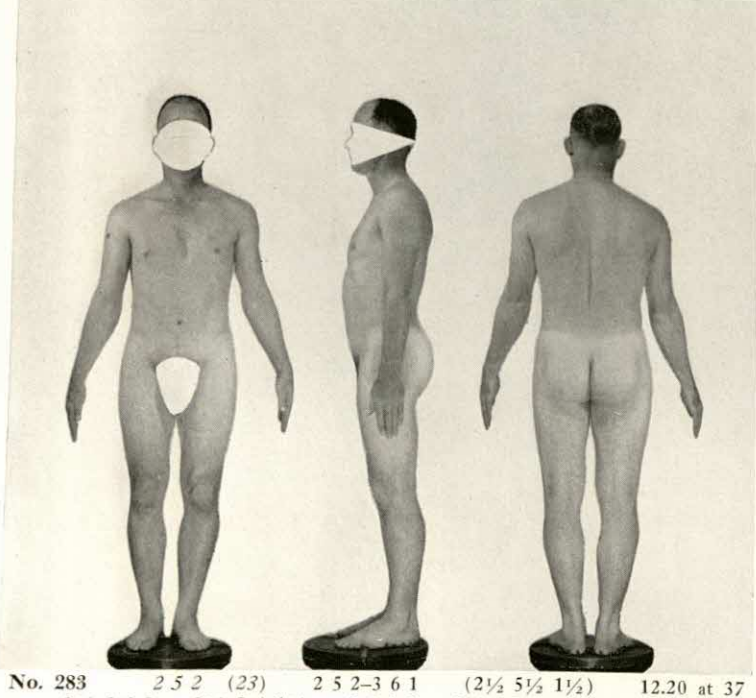


No. 281 *2 5 2 (21)* 2 5 2–3 5 2 (2½ 5 2) 12.25 at 51
2½ 5½ 1½, 2½ 5 2½, 2 5½ 2, 2½ 5 2, 2½ 5 2½

252

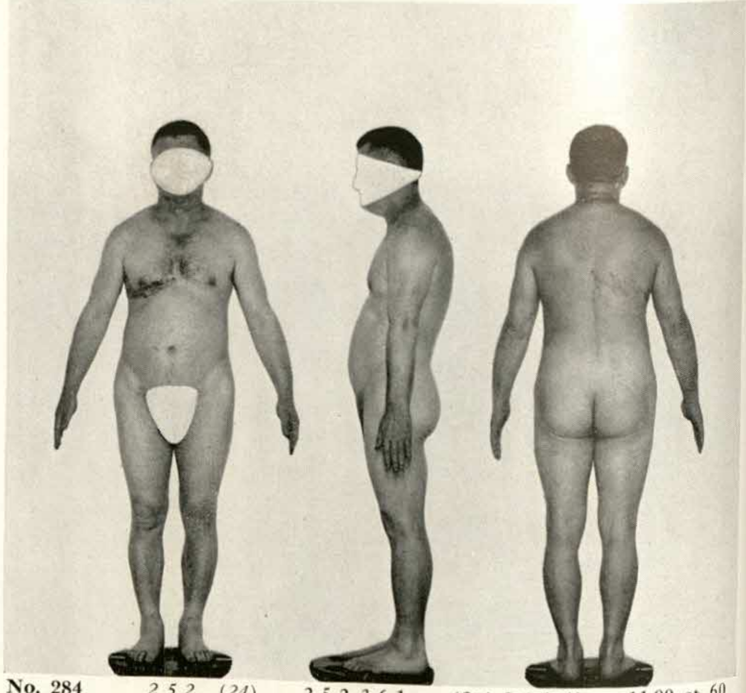


No. 282 *2 5 2 (22)* 2 5 2–3 6 1 (2½ 5½ 1½) 12.62 at 20
2½ 5½ 1½, 2½ 5½ 1½, 2 6 1, 2½ 5 2, 3 5½ 1½



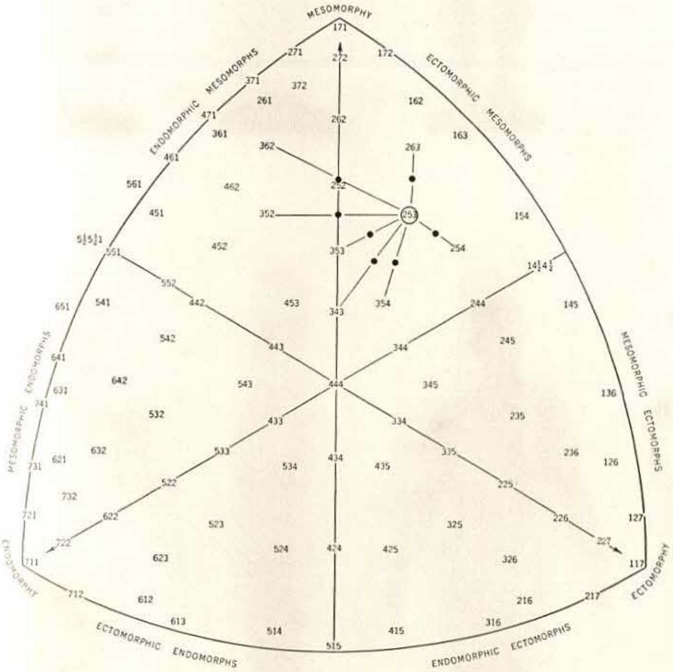
No. 283 *2 5 2 (23)* 2 5 2–3 6 1 (2½ 5½ 1½) 12.20 at 37
2½ 5½ 2, 2½ 5½ 1½, 2½ 5 2, 2½ 6 1½, 2½ 5½ 1½

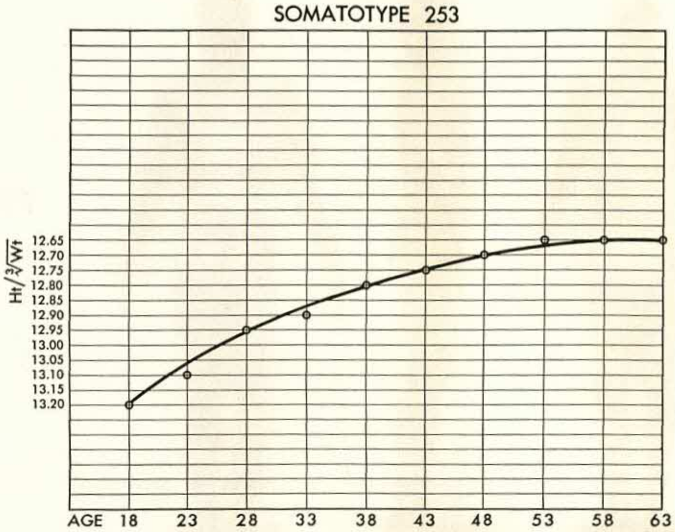
252



No. 284 *2 5 2 (24)* 2 5 2–3 6 1 (2½ 5½ 1½) 11.99 at 60
2½ 5½ 1½, 2½ 5½ 1½, 2½ 5½ 1½, 2½ 5½ 1½, 2½ 5½ 1½

Somatotype 2 5 3 *(Ectomorphic mesomorphy, 10-level.) Bobcats, wildcats. Larger, taller, more ectomorphic members of the family of little cats. The middle-sized lesser cats. Nos. 288–313.*





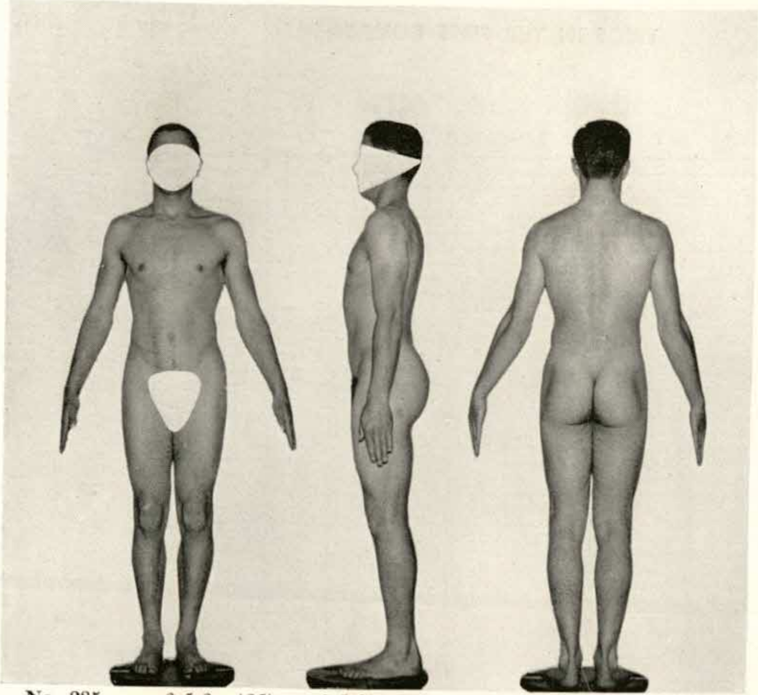
Weight for Age and Height

Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	183	188	193	197	201	204	206	207	209	210
74	176	180	186	189	193	195	198	199	201	201
73	169	173	179	182	185	188	190	191	193	193
72	162	166	171	174	177	180	182	182	184	185
71	156	159	164	167	170	173	175	175	177	177
70	149	153	158	160	163	166	168	168	170	170
69	143	147	151	154	157	159	161	162	163	164
68	137	140	145	147	150	152	154	155	156	156
67	131	134	138	141	143	146	147	148	149	149
66	125	128	132	134	137	139	140	141	142	143
65	119	122	126	128	131	133	134	135	136	136
64	114	117	120	122	125	127	128	128	130	130
63	109	111	115	117	119	121	122	122	124	124
62	104	106	109	111	113	115	117	117	118	119
61	99	101	104	106	108	110	111	111	113	113

Rarity 1. Incidence 35 per thousand. In constitutional parlance the big cats and great cats are the 6's and 7's in mesomorphy who are at about the 2-level in endomorphy. Collectively, these define the human pinnacle in quick striking power, in relaxed agility, and in lethal destructiveness. The lesser cats, the 2 5 2's, 2 5 3's and 2 5 4's, are first cousins of the big cats but less mortally dangerous, except to smaller creatures.

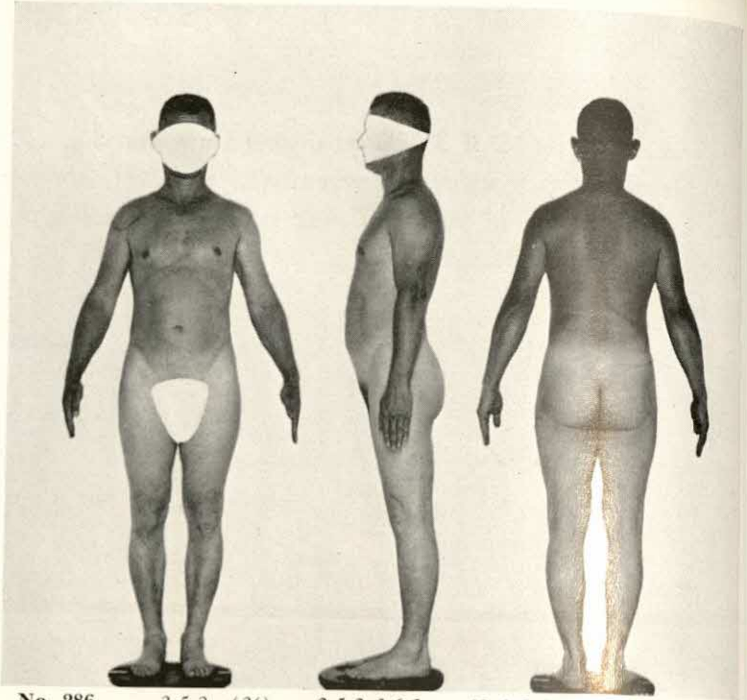
All of the lesser cats are inclined to be good athletes, although very rarely at the championship level. 2 5 3's may well be the commonest somatotype found on ball teams and other athletic teams representing small towns, YMCA's, high schools, industrial organizations and the like. But the college and professional teams are made up principally of the big cats. Little 2 5 3's can train down to become jockeys. Occasionally a 2 5 3 of tall stature and of dysplastically long or mesomorphic arms becomes an outstanding tennis player or baseball pitcher. But as a rule the 2 5 3 is under great strain on those rare occasions when he finds himself in topflight athletic competition, and certainly in most instances it is a mistake to encourage a boy of this comparatively brittle and vulnerable physical constitution to aspire to major athletic participation. It is better to leave that to the heavier cats, and to the bears and bulls.

The 2 5 3 is another of the comparatively healthy and long lived somatotypes. When dysplastic, with disproportionately greater mesomorphic strength above the diaphragm than below it, this somatotype is often seen with gastric ulcer (see p. 169), and there is also a tendency toward paranoid psychopathy.

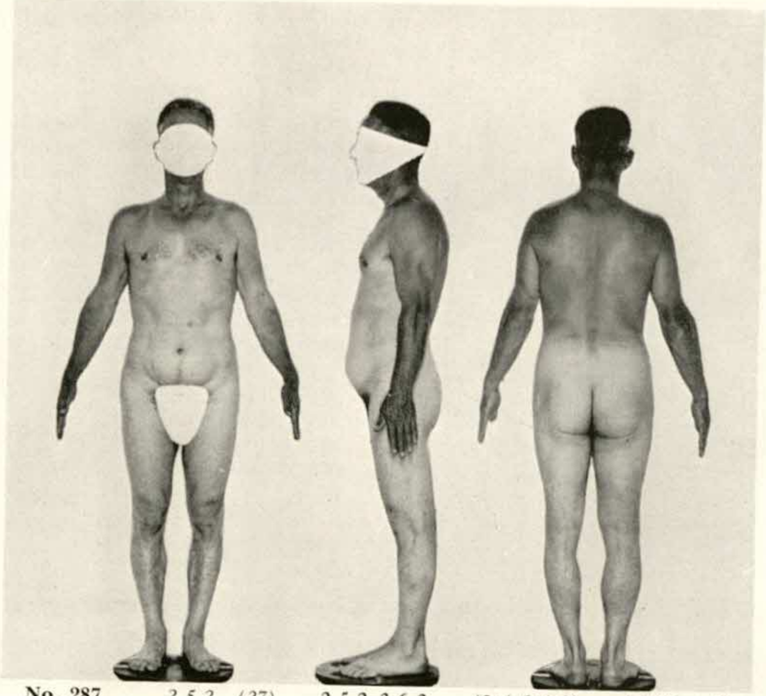


No. 285 *2 5 2* *(25)* 2 5 2–3 6 2 (2½ 5½ 2) 12.70 at 20
2½ 5½ 2, 2½ 5½ 2, 2½ 5½ 2, 2½ 5½ 2½, 2½ 5½ 2

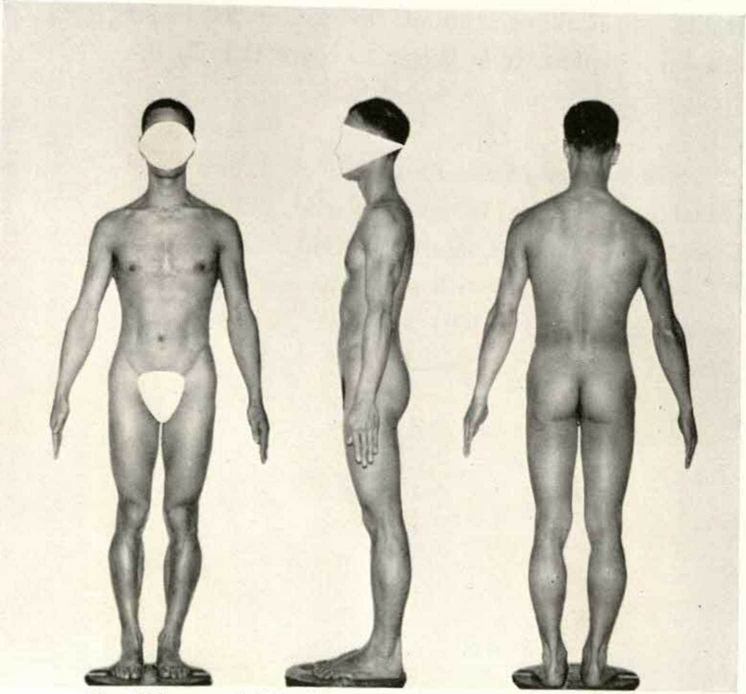
252



No. 286 *2 5 2* *(26)* 2 5 2–3 6 2 (2½ 5½ 2) 12.11 at 44
2½ 5½ 2, 2½ 5½ 2, 3 5 2, 2½ 5½ 2, 2½ 5½ 2

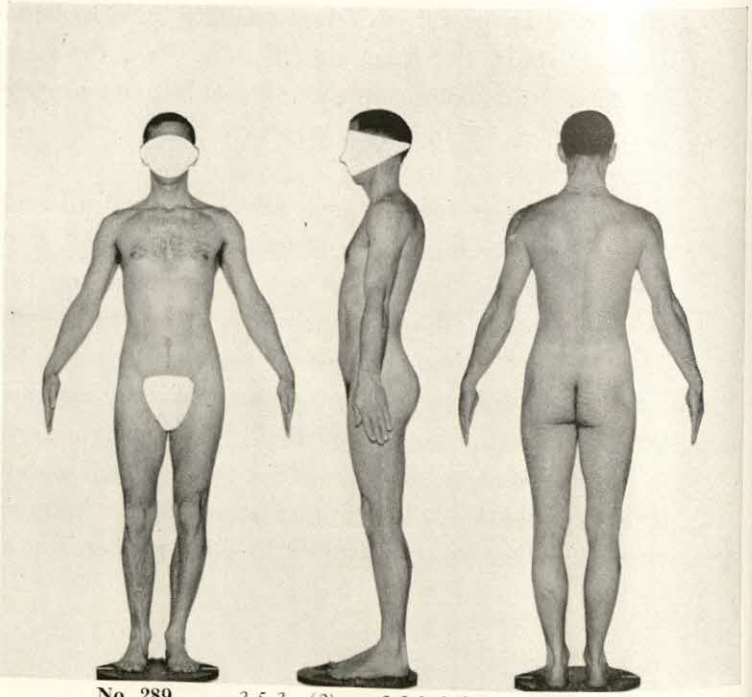


No. 287 *2 5 2* *(27)* 2 5 2–3 6 2 (2½ 5½ 2) 12.07 at 54
2½ 5 2½, 2½ 5½ 2, 2 5½ 2, 2½ 5½ 2, 2½ 5 2

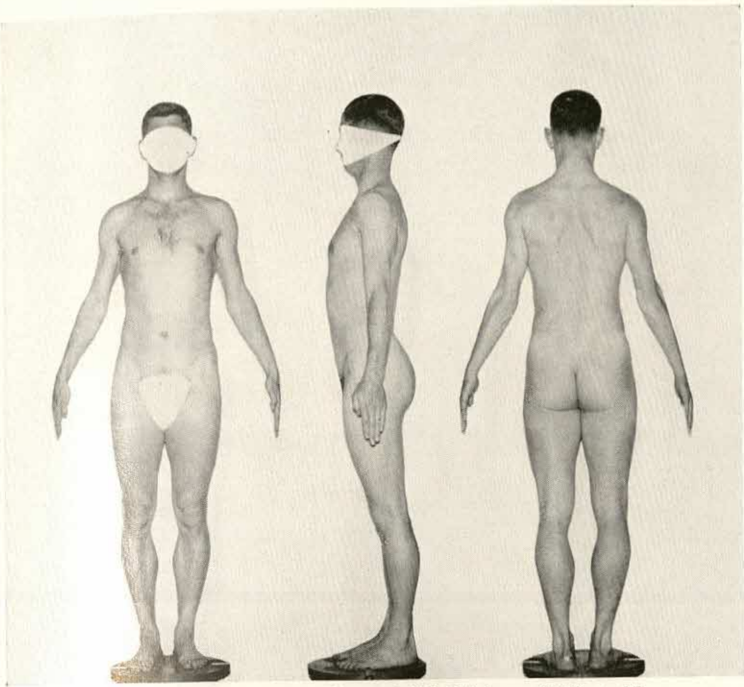


No. 288 *2 5 3* *(1)* 2 5 3–2 5 3 13.12 at 21
1½ 4½ 4, 2 5 3, 2 5 3, 2 5 3½, 2½ 5 2½

253

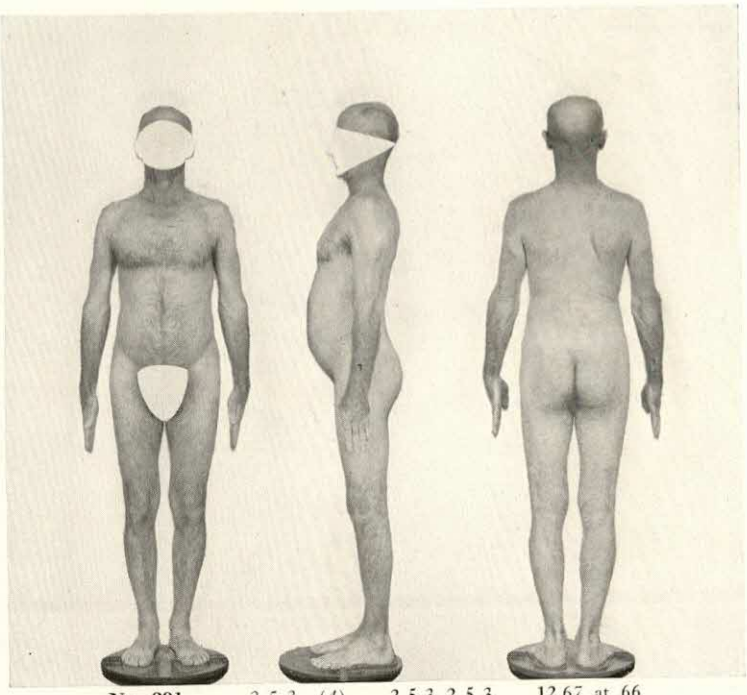


No. 289 *2 5 3* *(2)* 2 5 3–2 5 3 13.02 at 25
2 4½ 3½, 2 5 3, 2 5 2½, 2 5 3½, 2 5 3

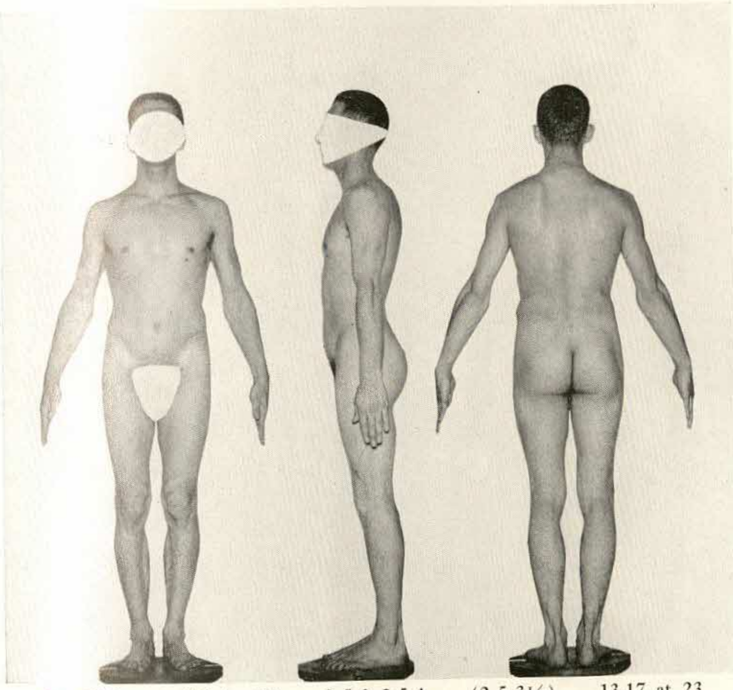


No. 290 *2 5 3* (*3*) 2 5 3–2 5 3 12.80 at 37
2 5 3, 2 4½ 3½, 2 4½ 3½, 2 5 3, 2 5 3

253

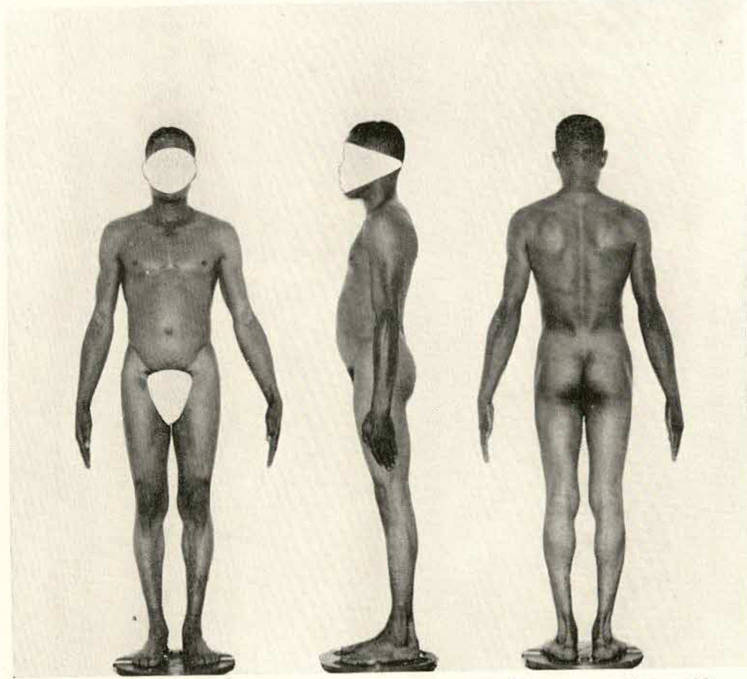


No. 291 *2 5 3* (*4*) 2 5 3–2 5 3 12.67 at 66
2 5 2½, 2 5 2½, 2 5 3, 2 4½ 3½, 2 4½ 3½

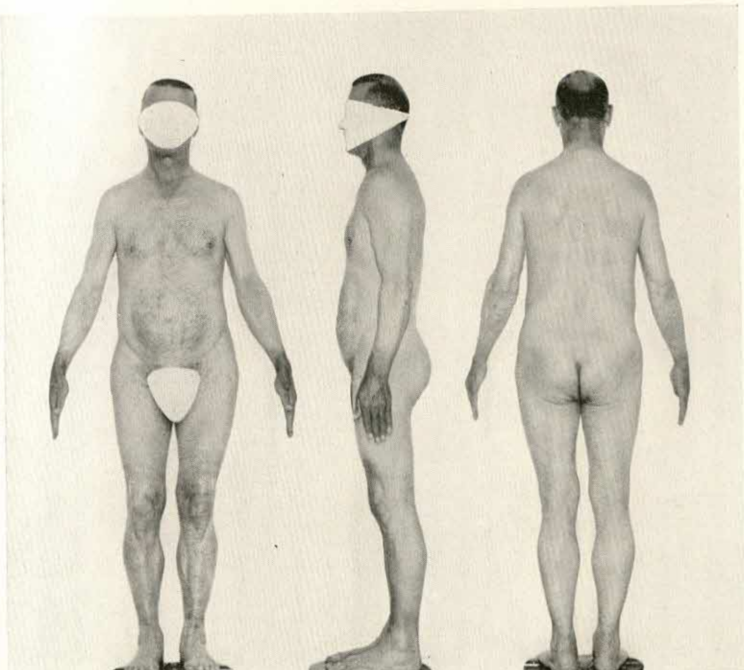


No. 292 *2 5 3* (*5*) 2 5 3–2 5 4 (2 5 3½) 13.17 at 23
2 5 3½, 2 5 3, 2 5 3, 2 5 3½, 2 5 4

253

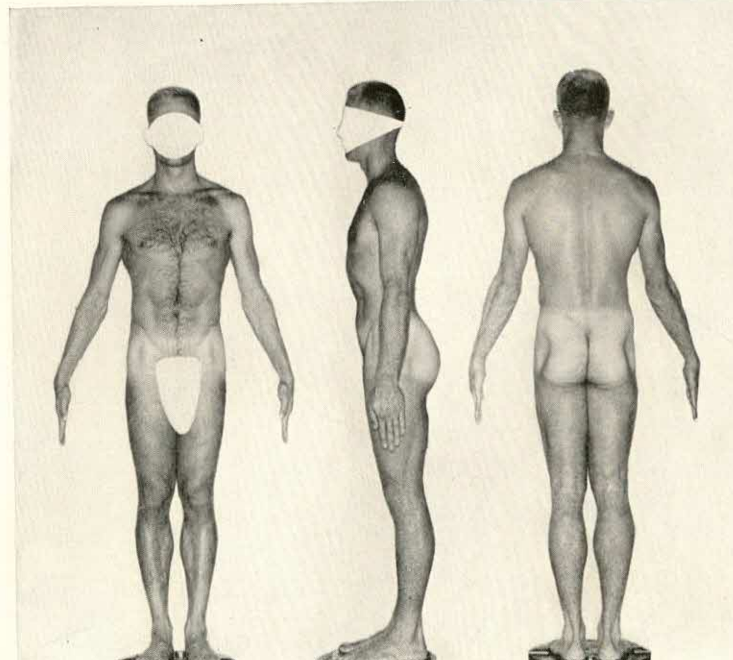


No. 293 *2 5 3* (*6*) 2 5 3–2 5 4 (2 5 3½) 12.90 at 39
2 5 3, 2 5 3, 2 5 4, 2 5 3, 2 4 5

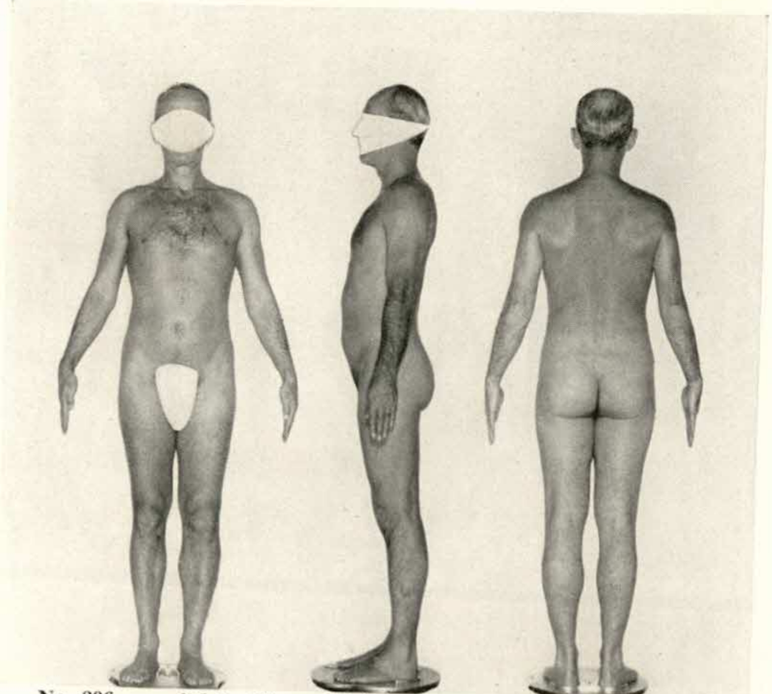


No. 294 *2 5 3* (7) 2 5 3–2 5 4 (2 5 3½) 12.81 at 64
2 5 3½, 2 5 3½, 2 5 3, 2 5 3½, 2 5 3

253

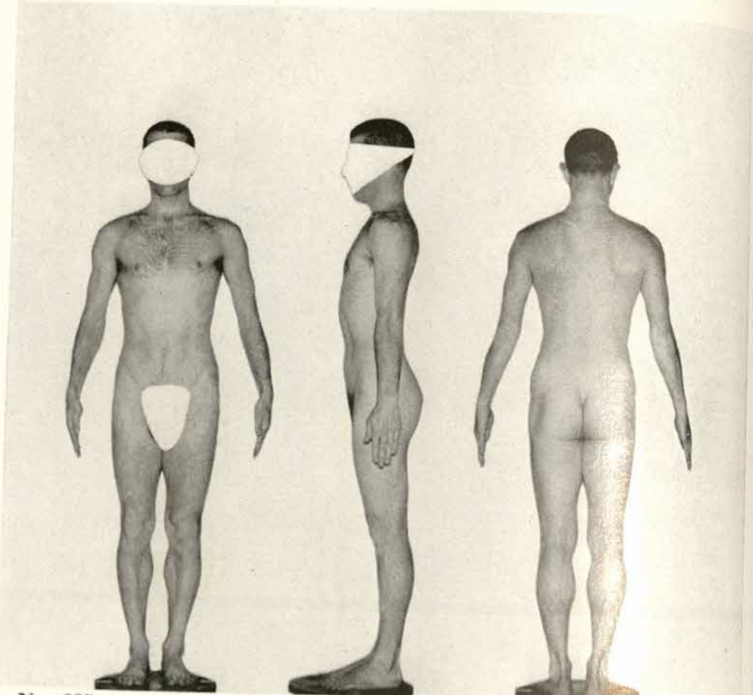


No. 295 *2 5 3* (*8*) 2 5 3–2 6 3 (2 5½ 3) 12.90 at 25
2 5½ 3, 2 5½ 3, 2 5½ 3, 1½ 5½ 3, 1½ 5½ 3

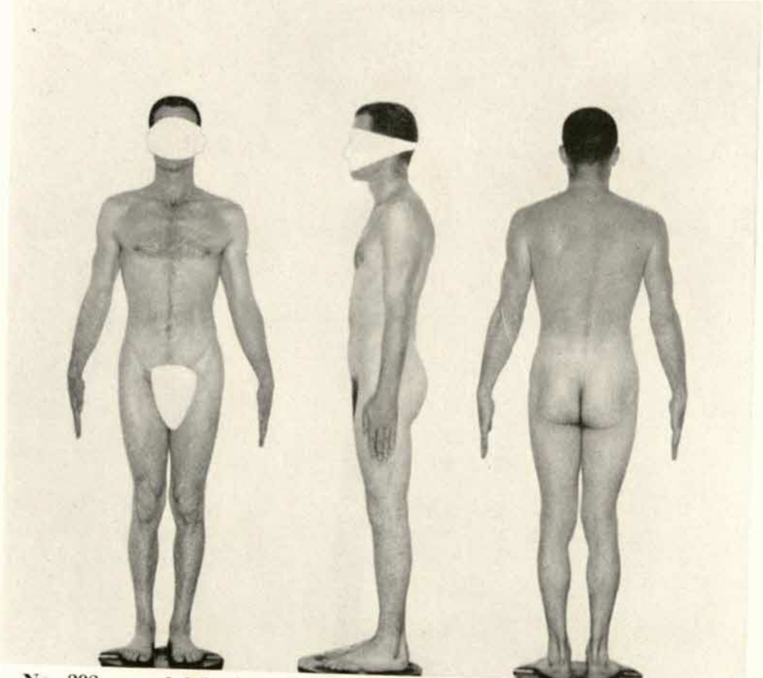


No. 296 *2 5 3* *(9)* 2 5 3–2 6 3 (2 5½ 3) 12.59 at 50
2 4½ 4, 2 5½ 3, 2 5 3, 2 5½ 3, 2 6 2½

253

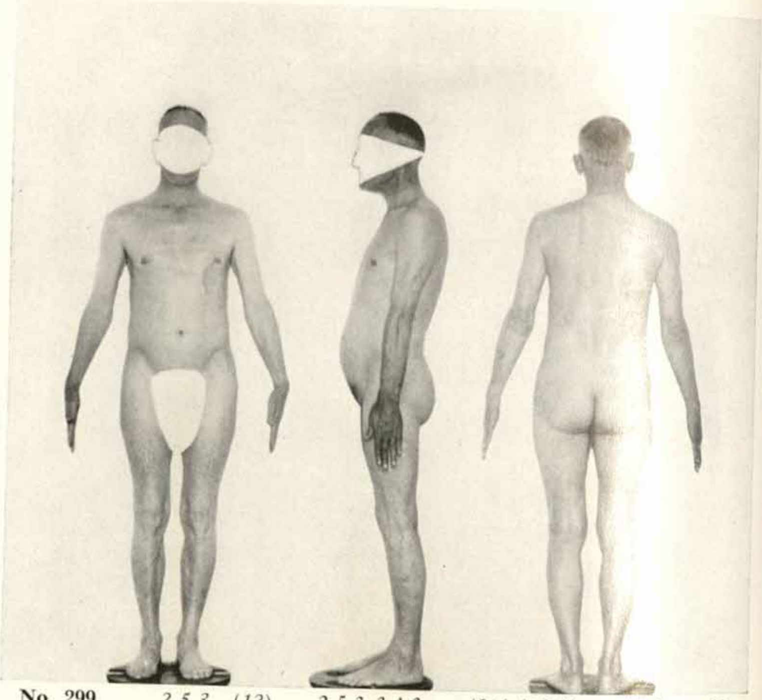


No. 297 *2 5 3* *(10)* 2 5 3–3 4 3 (2½ 4½ 3) 13.07 at 24
2½ 4½ 3, 2½ 4½ 3, 2½ 4½ 3, 2½ 4½ 3½, 2½ 5 3

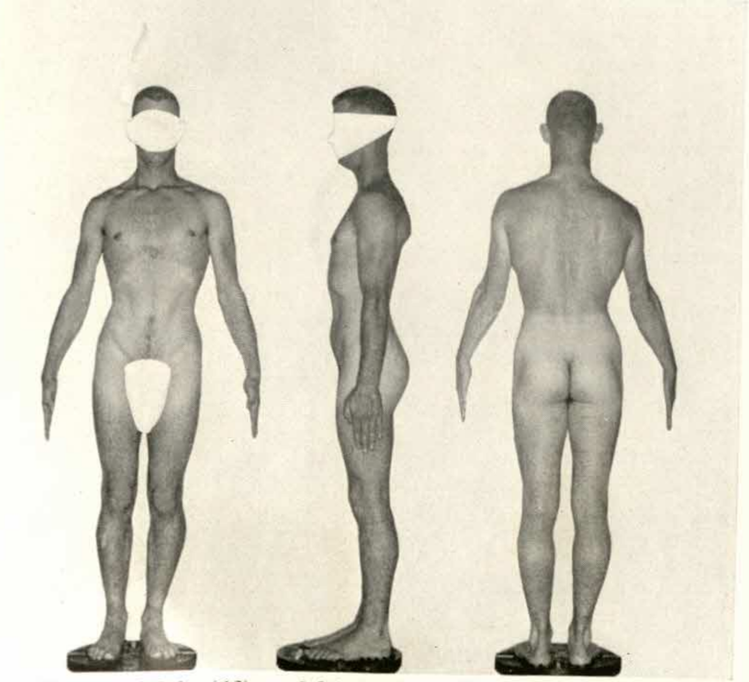


No. 298 *2 5 3* *(11)* 2 5 3–3 4 3 (2½ 4½ 3) 12.87 at 32
2½ 4½ 3, 2½ 5 3, 2½ 5 3, 2½ 4½ 3, 2½ 4½ 3

253

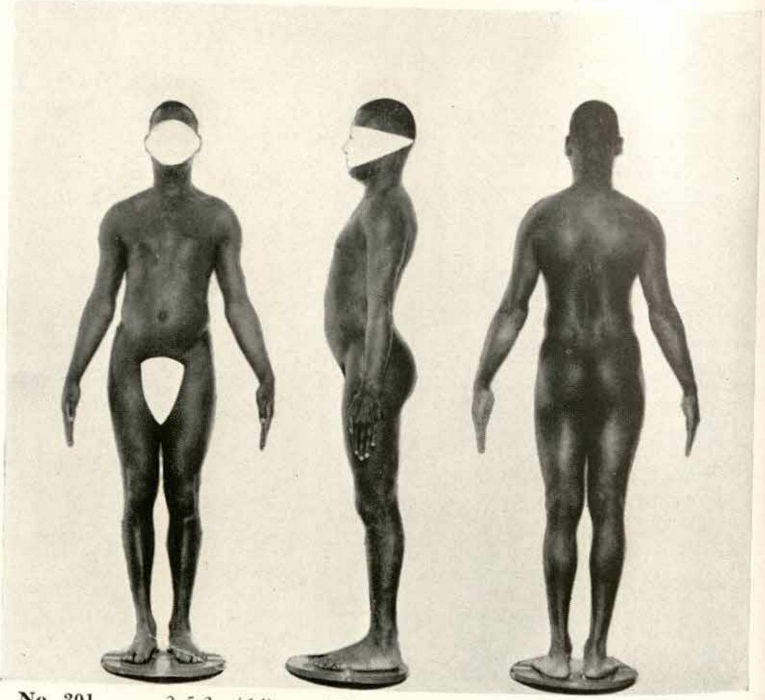


No. 299 *2 5 3* *(12)* 2 5 3–3 4 3 (2½ 4½ 3) 12.58 at 59
2 4 4, 2½ 4 3½, 2 4½ 3, 2½ 4½ 3, 2½ 4½ 2½

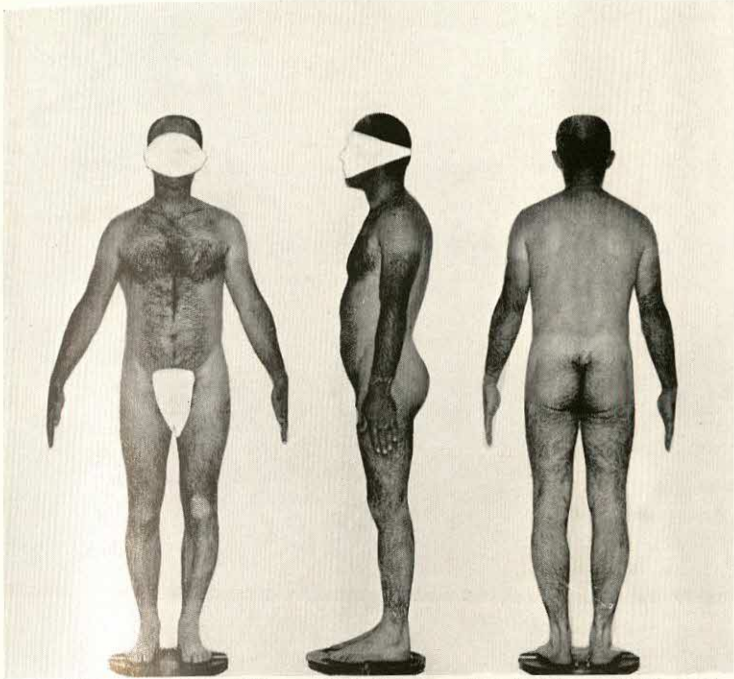


No. 300 *2 5 3* *(13)* 2 5 3–3 5 2 (2½ 5 2½) 12.95 at 21
2½ 5 2½, 2 5 3, 2½ 5 2½, 2½ 4½ 3, 3 5 2½

253

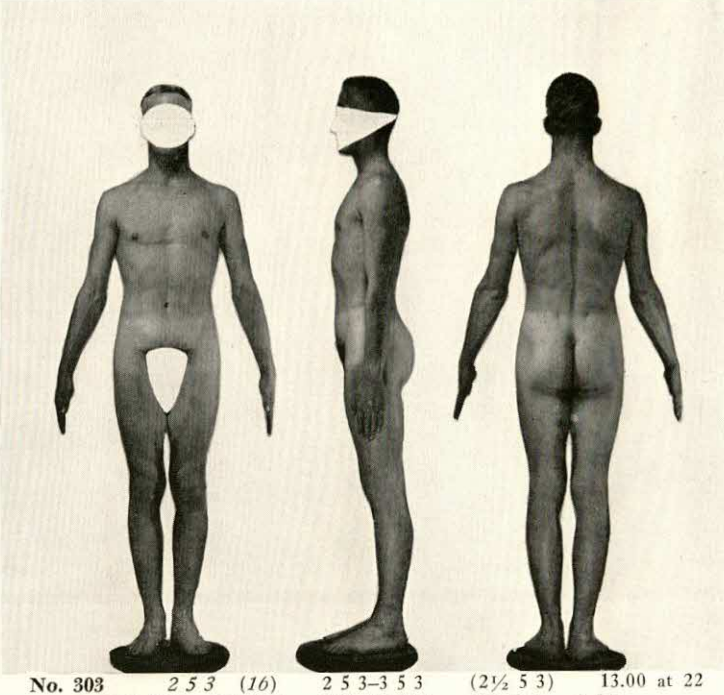


No. 301 *2 5 3* *(14)* 2 5 3–3 5 2 (2½ 5 2½) 12.62 at 32
2½ 5 2½, 2½ 5 2½, 2½ 5 3, 2½ 5 2, 2½ 5 3

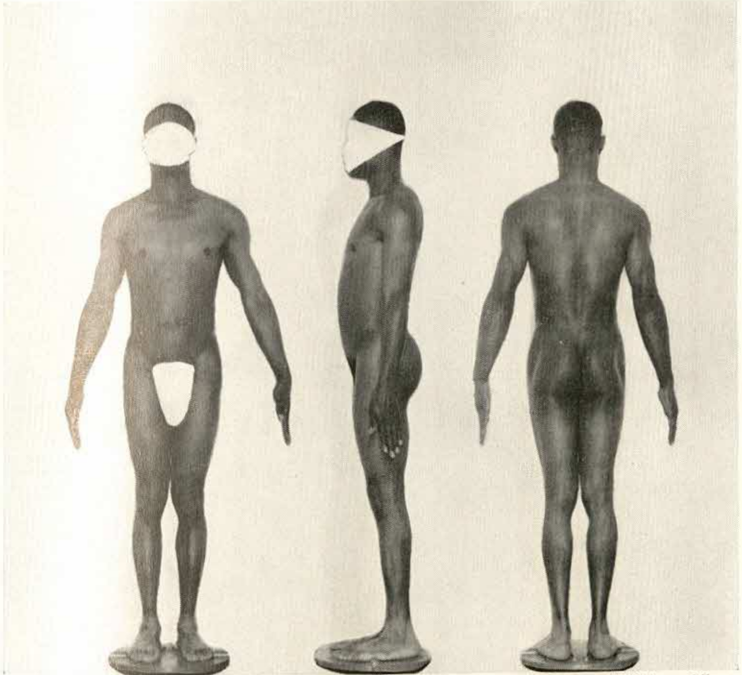


No. 302 *2 5 3* *(15)* 2 5 3–3 5 2 (2½ 5 2½) 12.41 at 44
2½ 5 2½, 2½ 5 2, 2½ 5 2, 2½ 5 2½, 2½ 5 2½

253

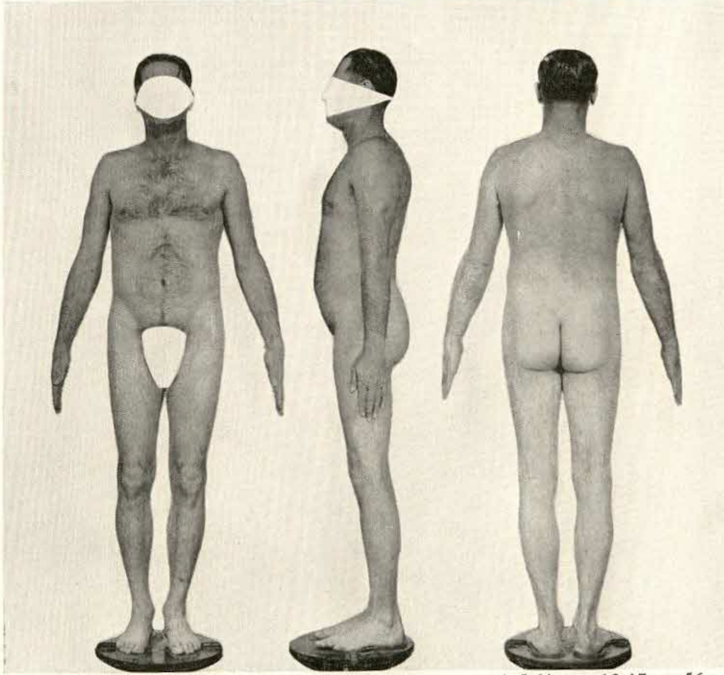


No. 303 *2 5 3* *(16)* 2 5 3–3 5 3 (2½ 5 3) 13.00 at 22
2½ 5 3, 2 5 2½, 2½ 4½ 3½, 2½ 5 3, 3 5 3

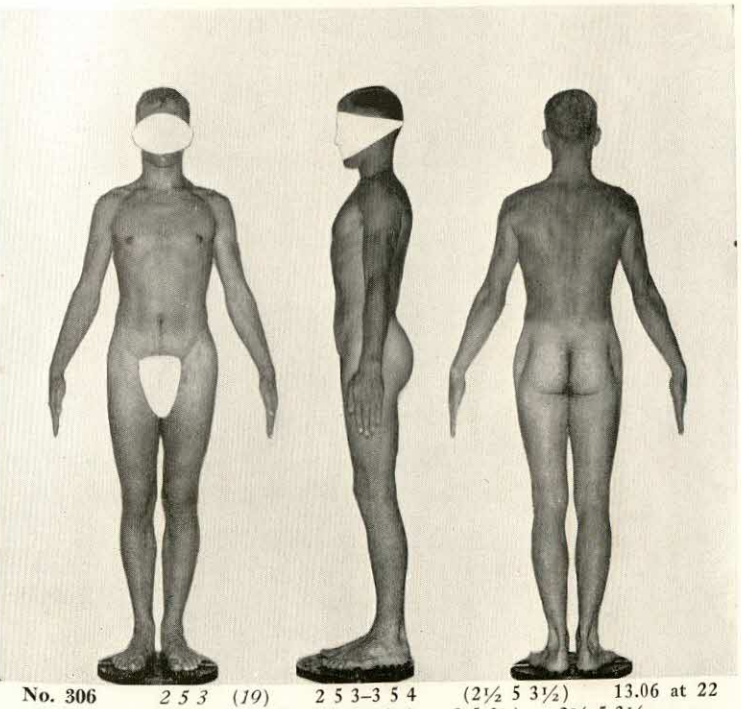


No. 304 *2 5 3* *(17)* 2 5 3–3 5 3 (2½ 5 3) 12.84 at 27
2½ 5½ 2½, 2 5 3, 2½ 5½ 3, 2 5 2½, 2½ 5 3

253

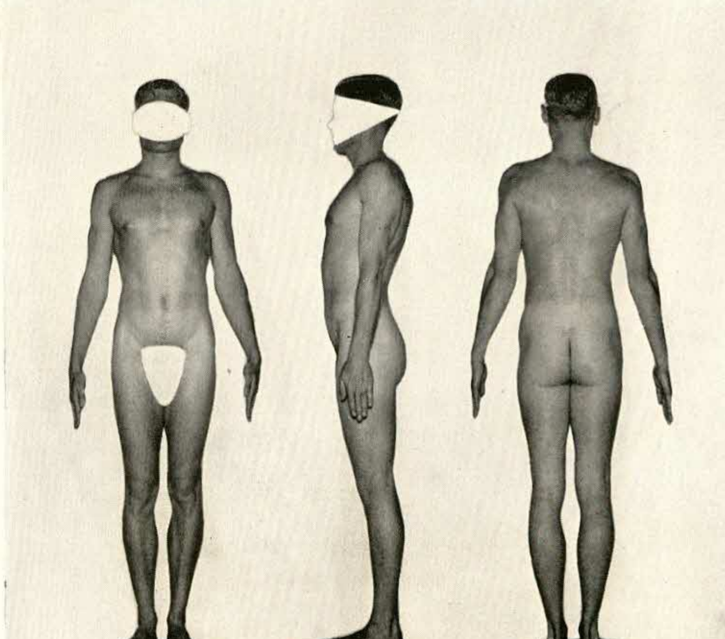


No. 305 *2 5 3* *(18)* 2 5 3–3 5 3 (2½ 5 3) 12.47 at 56
2½ 5 3, 2½ 5½ 2½, 2½ 5 3, 2½ 5½ 2½, 2½ 4½ 3½

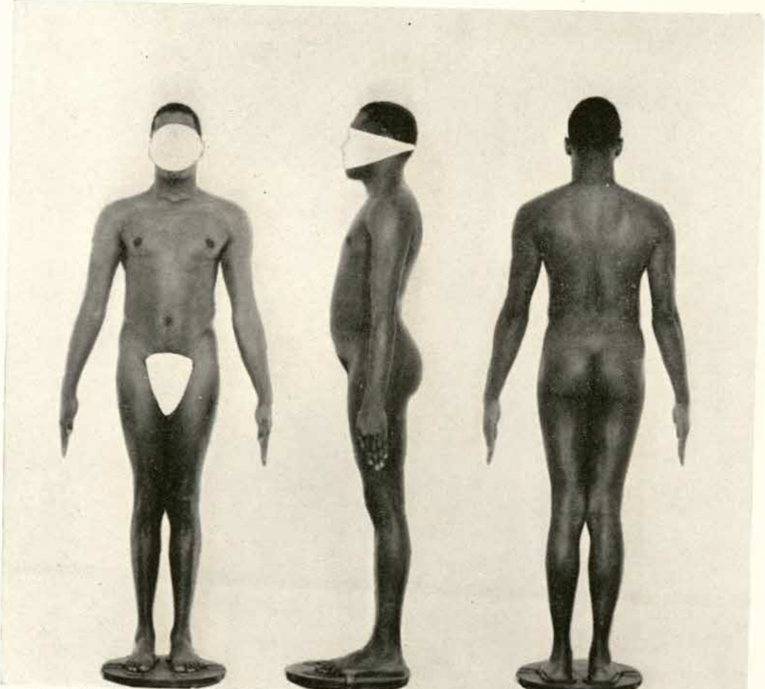


No. 306 *2 5 3* *(19)* 2 5 3–3 5 4 (2½ 5 3½) 13.06 at 22
2½ 5 3½, 2½ 5 3, 2 5½ 3½, 2 5 3½, 2½ 5 3½

253

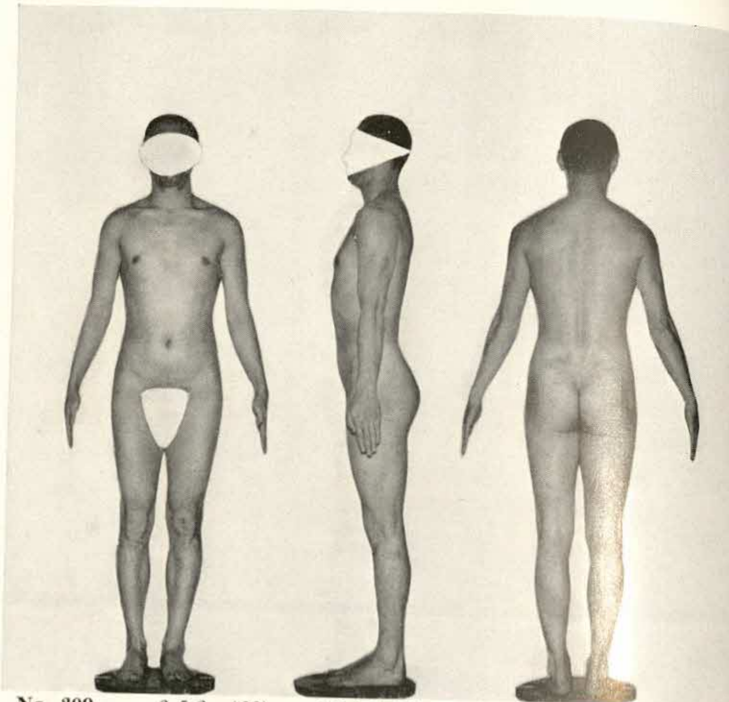


No. 307 *2 5 3* *(20)* 2 5 3–3 5 4 (2½ 5 3½) 12.90 at 28
2 5 3½, 2½ 5 3½, 2½ 5 3½, 2½ 5 3½, 2½ 4½ 4

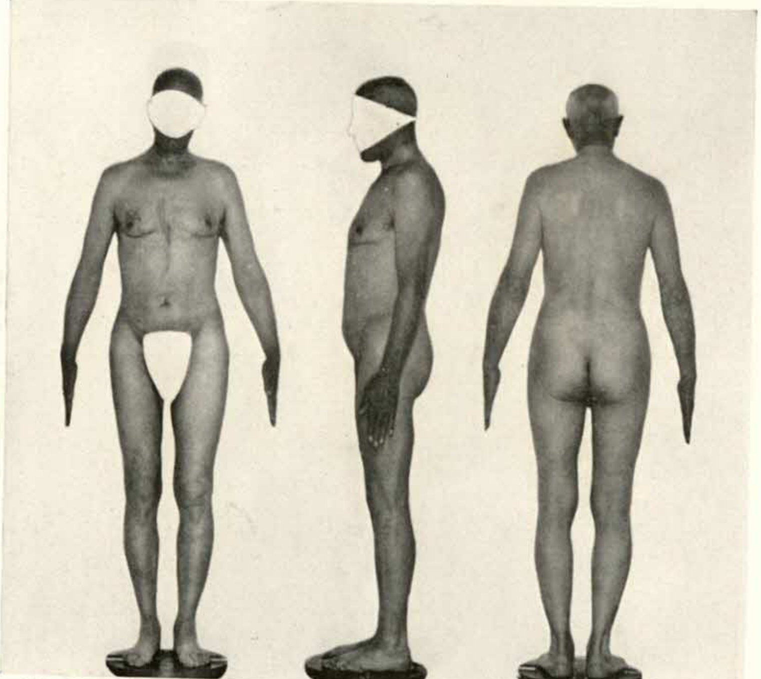


No. 308 *2 5 3 (21)* 2 5 3–3 5 4 (2½ 5 3½) 12.91 at 28
2½ 5½ 3, 2½ 5 3½, 2½ 5 4, 2½ 5½ 3, 3½ 5 3½

253

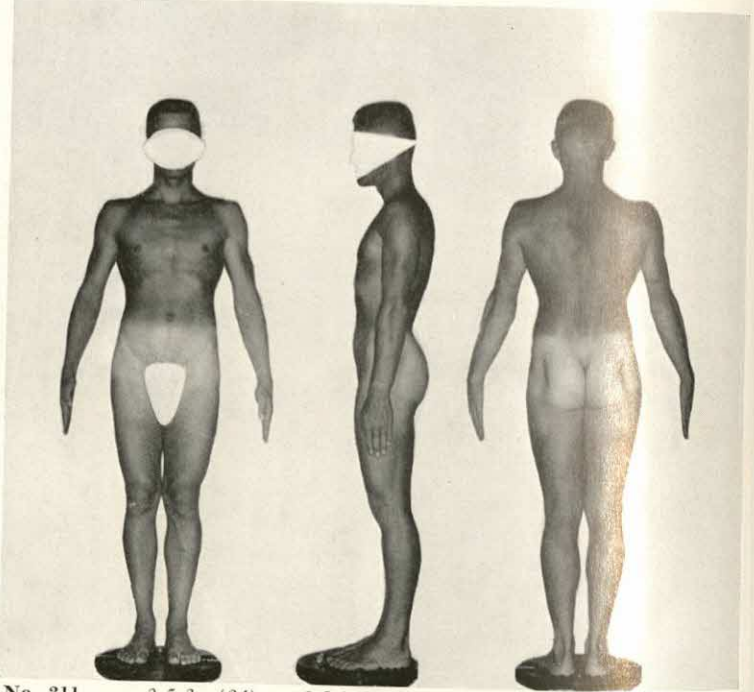


No. 309 *2 5 3 (22)* 2 5 3–3 5 4 (2½ 5 3½) 12.82 at 34
2½ 5 3, 2½ 4½ 4, 2½ 4½ 3½, 2½ 4½ 3½, 2½ 5½ 3½

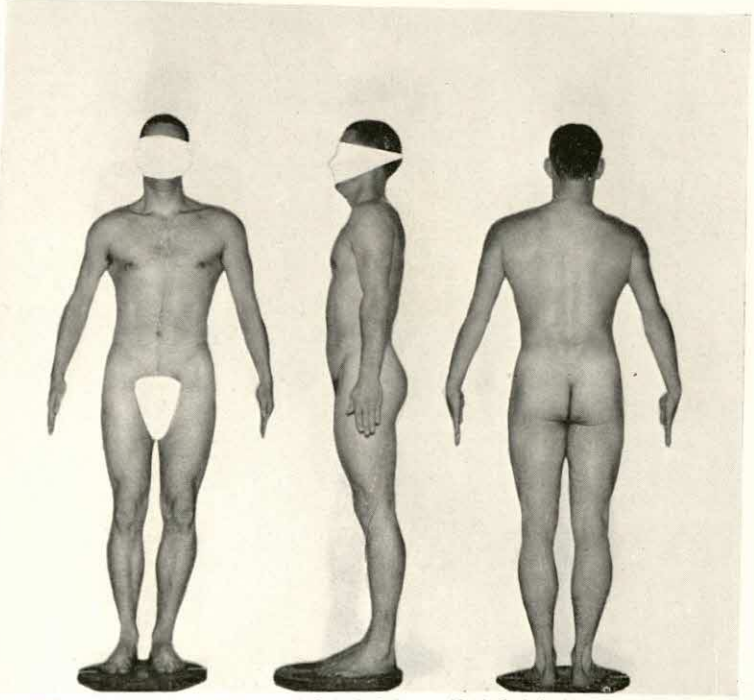


No. 310 *2 5 3 (23)* 2 5 3–3 5 4 (2½ 5 3½) 12.56 at 62
2 4½ 4, 2½ 5 3, 2½ 4½ 4, 2½ 5 3½, 2½ 5 3

253

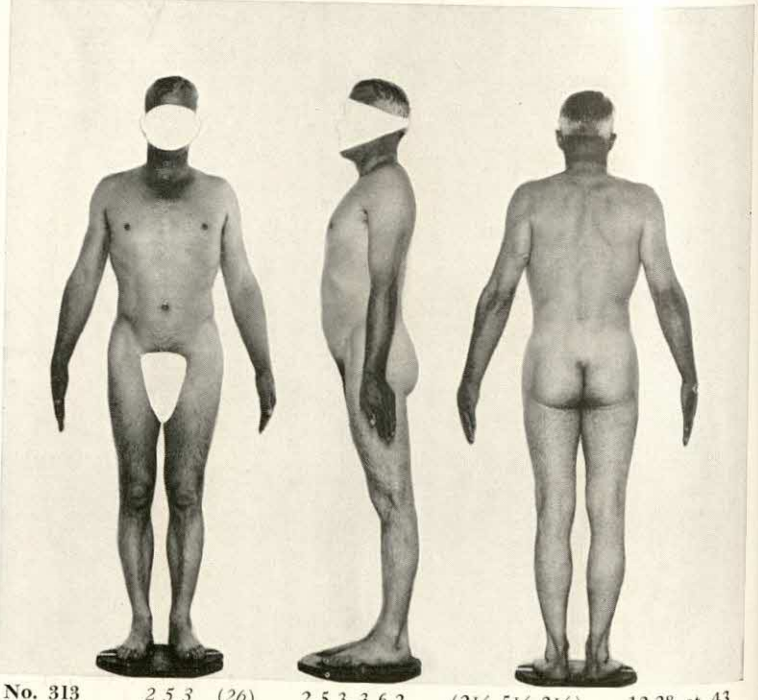


No. 311 *2 5 3 (24)* 2 5 3–3 6 2 (2½ 5½ 2½) 12.74 at 22
2½ 5 2½, 2½ 5½ 3, 2½ 5½ 2, 2 5½ 2½, 2½ 6 2½



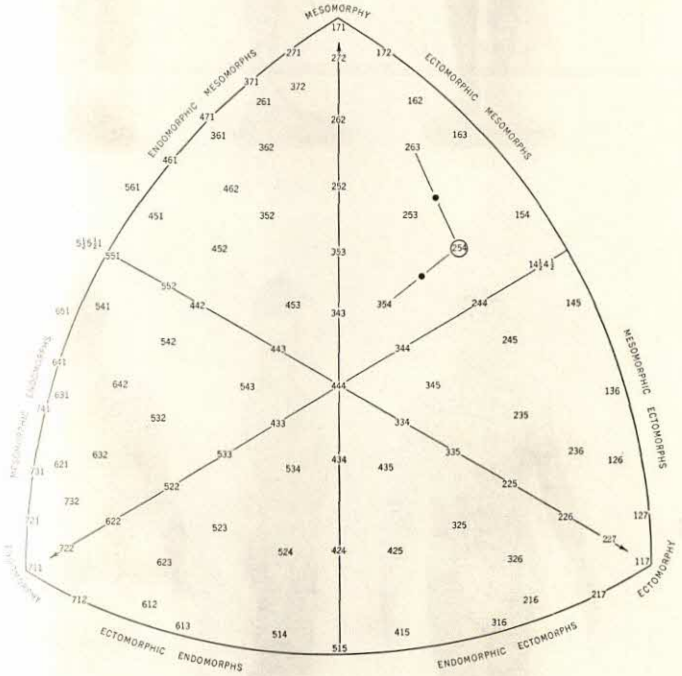
No. 312 *2 5 3 (25)* 2 5 3–3 6 2 (2½ 5½ 2½) 12.73 at 23
2½ 5½ 2½, 2½ 5½ 2½, 2½ 5 2, 2½ 5½ 2½, 2 5½ 2½

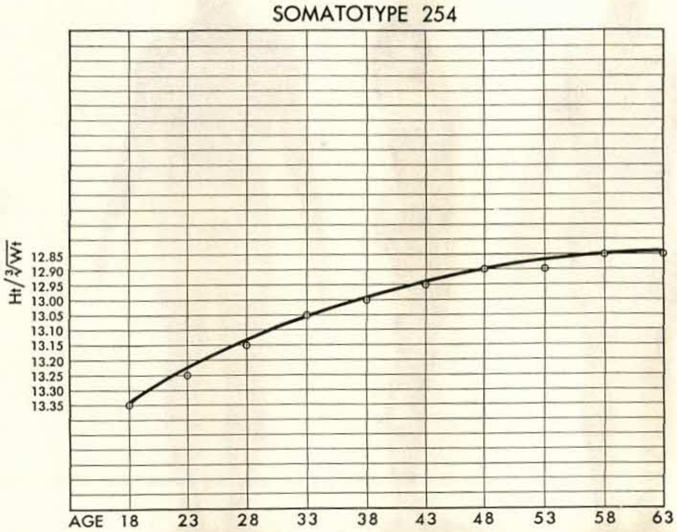
253



No. 313 *2 5 3 (26)* 2 5 3–3 6 2 (2½ 5½ 2½) 12.28 at 43
2½ 5½ 2½, 2½ 5½ 2, 2½ 5 2½, 2½ 5 2½, 2½ 5½ 2½

Somatotype 2 5 4 *(Ectomorphic mesomorphy, 11-level.) Lynxes, ocelots, cheetahs. The tallest, slenderest and longest legged of the lesser cats. Quickest and fastest of the cats, and these are creatures of great sensory acuity (lynx-eyed). Nos. 314–319.*



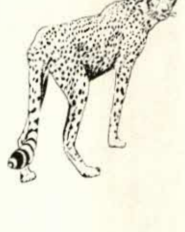


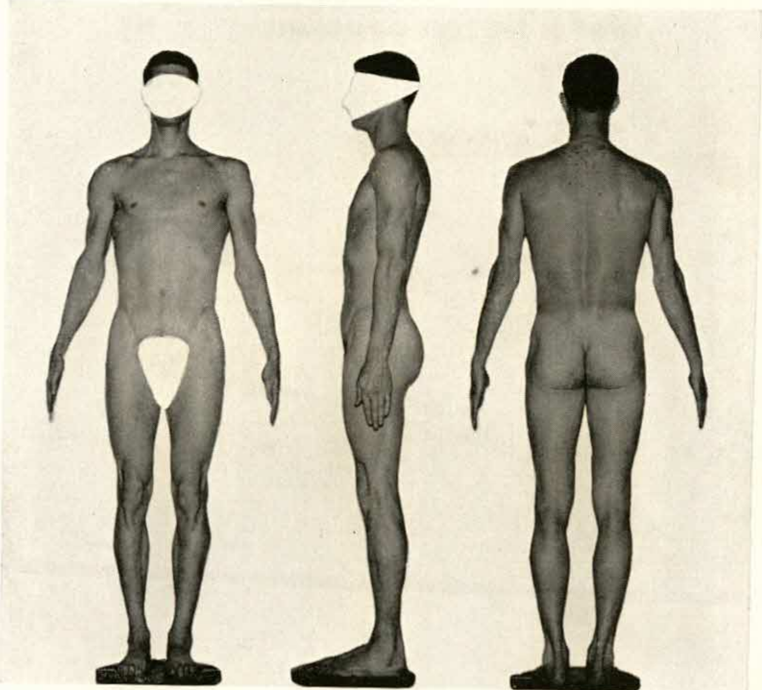
Weight for Age and Height

Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	177	182	186	189	192	194	196	197	198	199
74	170	175	178	181	184	187	189	189	190	191
73	163	168	171	174	177	180	181	182	183	184
72	156	161	164	167	169	172	173	174	175	176
71	150	155	157	160	163	165	167	167	168	169
70	144	148	151	154	156	158	160	160	162	162
69	138	142	145	147	150	152	153	154	155	156
68	132	136	139	141	143	145	147	147	148	149
67	126	130	132	135	137	139	140	141	142	142
66	120	124	126	129	131	132	134	134	135	136
65	115	119	121	123	125	126	128	128	129	130
64	110	113	115	117	119	121	122	122	123	124
63	105	108	110	112	114	115	116	117	118	118
62	100	103	105	106	108	110	111	111	112	113
61	95	98	100	101	103	104	105	106	107	107

Rarity 2. Incidence 28 per thousand. Almost of rarity 1 incidence, and the three lesser cats together make up nearly 7 per cent of the male population—enough for the recruiting of many local teams. But the 2 5 4 has another and perhaps more cogent claim to distinction. This is one of the longest lived and one of the healthiest somatotypes, and appears to be one of the three or four most likely claimants for first place in both of these respects. The curve of nutrition shows that in the middle sixties, at any rate, the 2 5 4 is often still a comparatively young man who has not yet gained his full component of weight.

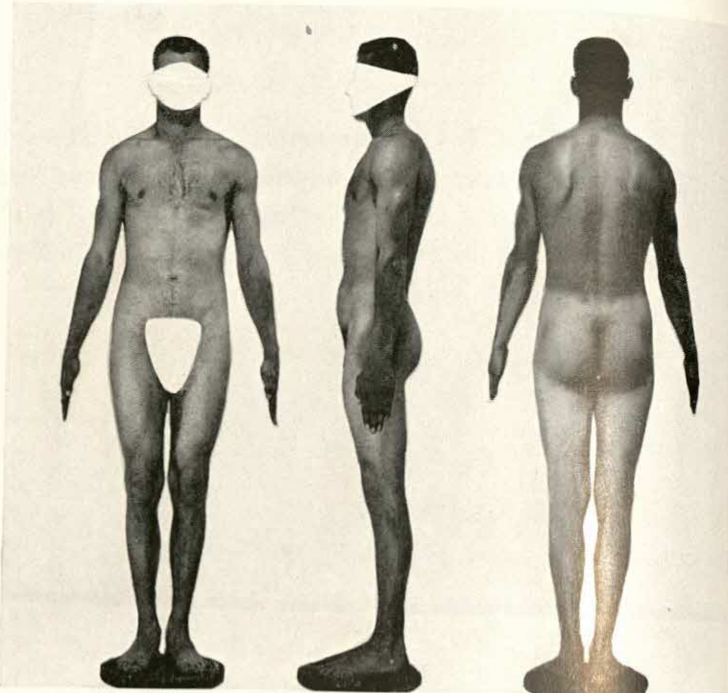
The impression that the 2 5 4 tends to be long lived was sustained by a visit of the writer at one of the conventions of the Grand Army of the Republic at a time when the veterans were nearly all in their eighties or older. The somatotyping idea was new then, and no photographs were taken, but the predominant somatotype seemed to lie somewhere between 2 4 4 and 3 5 4, with a few very dramatic, strikingly ectopenic exceptions. The most frequent guess made was 2 5 4. At Elgin State Hospital there is (or was in 1948) an alert old colored man who is as fine an example of this somatotype as one would ever want to see. He would let you "somatotype" him, with his shorts on, for a quarter, but a properly posed somatotype photograph would cost you half a dollar. It was known that he had been a slave, freed by the Civil War, and that he was, in 1945, at least 112. At that time he had been hospitalized for more than fifty years. Diagnosis, *paranoid schizophrenia,* and for longevity this "psychopathy of the Northeast" carries a very good prognosis. We have seen many 2 5 4's with gastric ulcer, but it should be reassuring to men of this somatotype that ulcer and schizophrenia are rarely seen together.



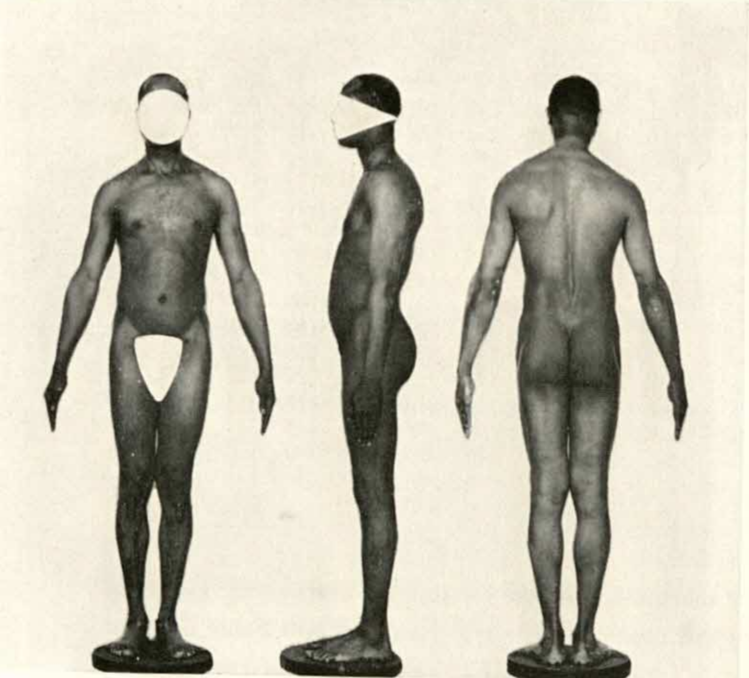


No. 314 *2 5 4* *(1)* 2 5 4–2 5 4 13.37 at 18
1½ 4½ 4½, 2 5 4, 2 5 4, 2½ 5 4, 2 4½ 4½

254

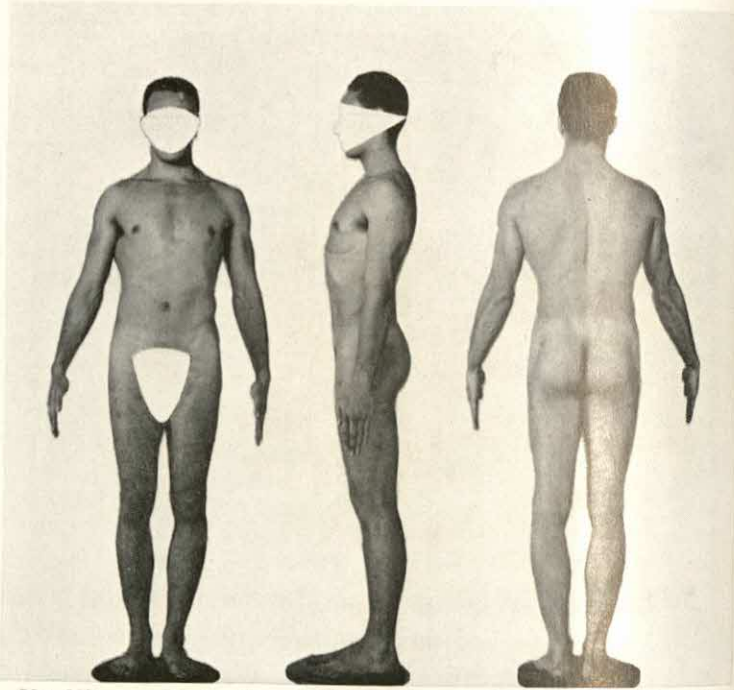


No. 315 *2 5 4* *(2)* 2 5 4–2 5 4 13.16 at 28
2 5½ 3½, 2 5 3½, 2 5½ 3½, 1½ 5 4, 2 4 5

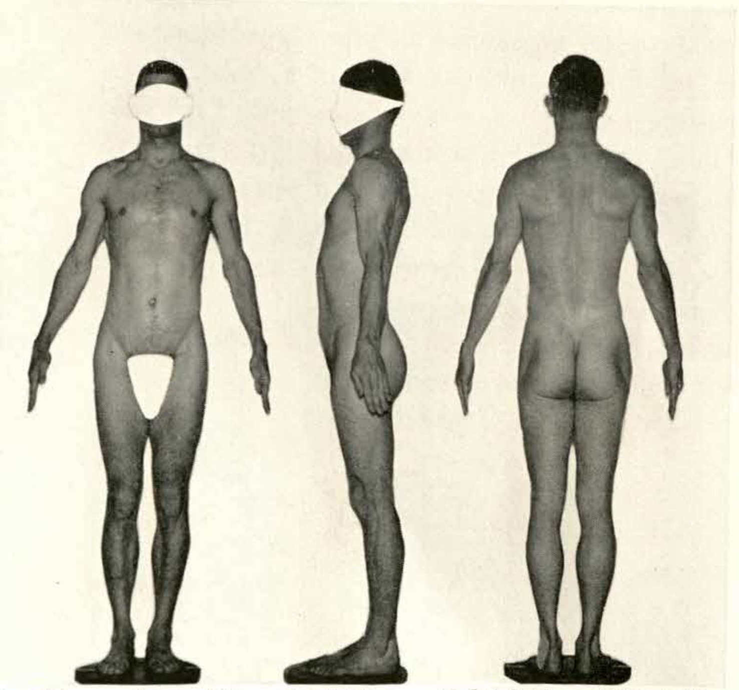


No. 316 *2 5 4* *(3)* 2 5 4–2 5 4 12.94 at 44
2 5 3½, 2 5 4, 2 5 4, 2 5½ 3½, 2 4½ 4½

254

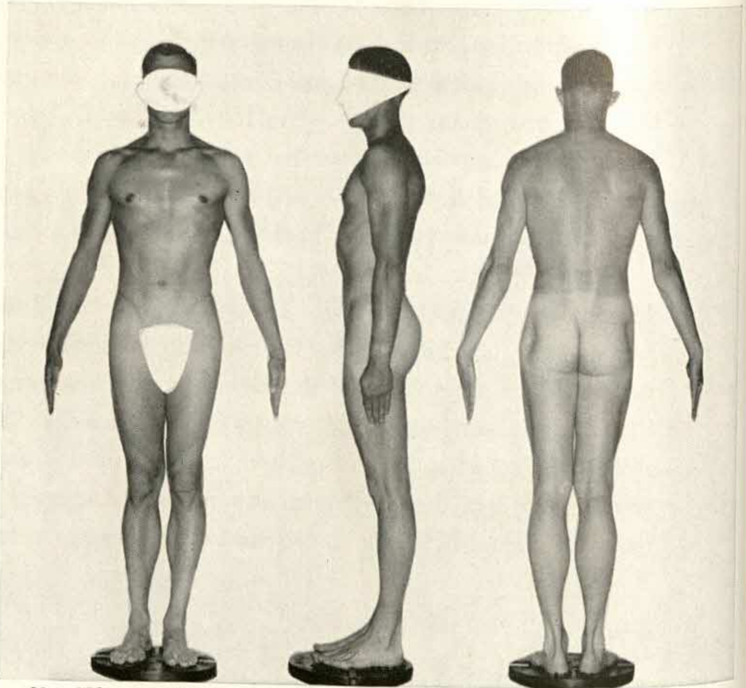


No. 317 *2 5 4* *(4)* 2 5 4–2 6 3 (2 5½ 3½) 13.00 at 24
2 5½ 3½, 2 5½ 3, 2 5½ 3, 2 5½ 3½, 2½ 5½ 3½



No. 318 *2 5 4* *(5)* 2 5 4–2 6 3 (2 5½ 3½) 12.92 at 29
2 5½ 3½, 2 5 4, 1½ 5½ 3½, 1½ 5 4, 2 5½ 3½

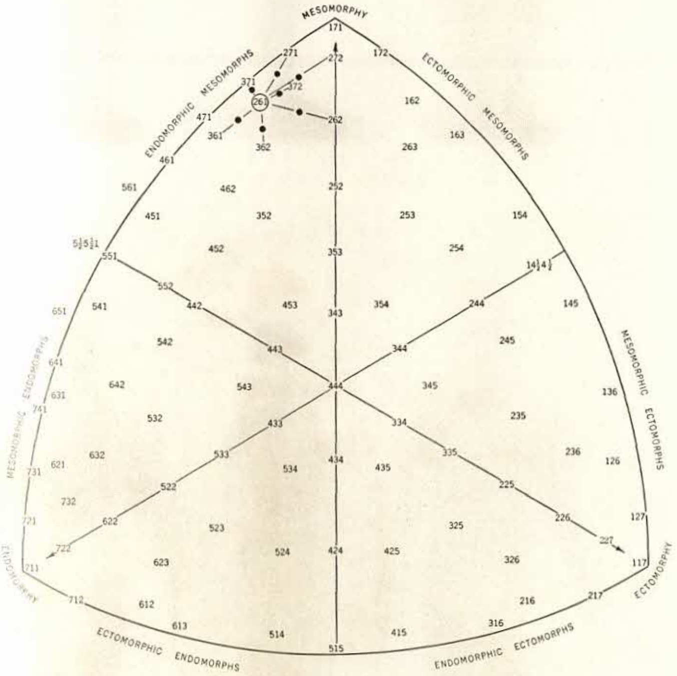
254

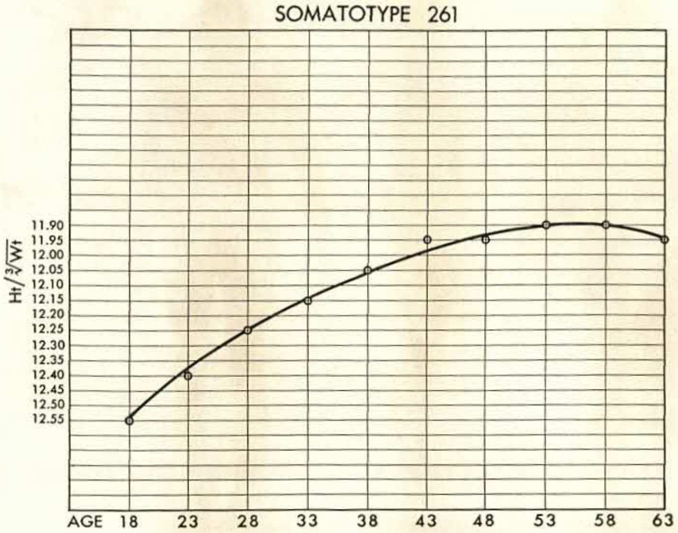


No. 319 *2 5 4* *(6)* 2 5 4–3 5 4 (2½ 5 4) 13.14 at 22
2 5 4, 2½ 5½ 3½, 2½ 4½ 4, 2½ 4½ 4, 2½ 5 4

13. GREAT CATS

Somatotype 2 6 1 *(Endomorphic extreme mesomorphy, at extreme ectopenia, 9-level.) Jaguars. Shorter-legged and heavier-bodied cats than the cougar or leopard. Most ectopenic and most powerful of the North American big cats. Nos. 320–339.*



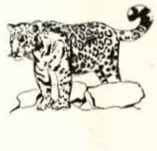


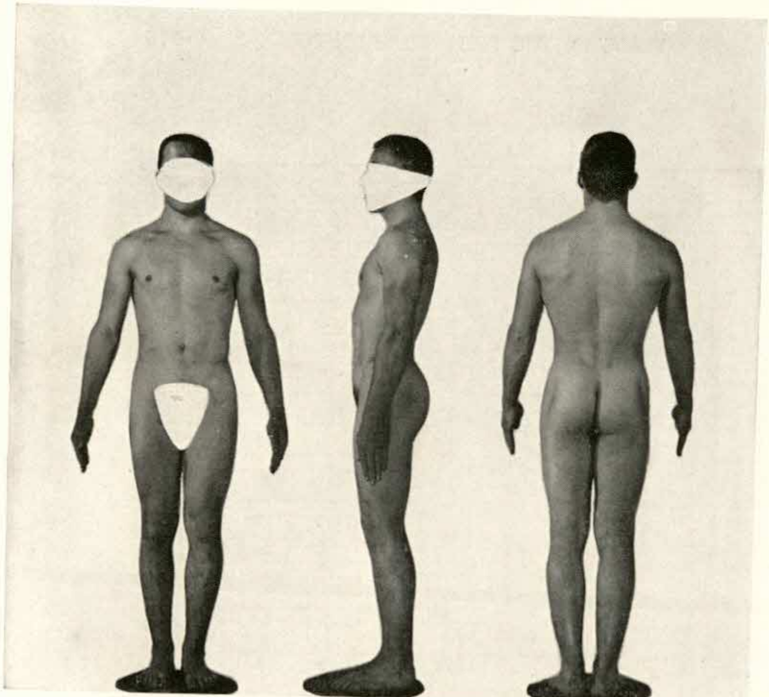
Weight for Age and Height

Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	212	221	228	234	241	247	249	249	250	249
74	203	212	219	225	232	237	239	239	240	239
73	195	204	210	216	222	227	230	230	230	230
72	188	196	202	208	214	219	222	222	222	221
71	180	187	193	199	205	209	212	212	213	212
70	173	180	186	191	196	201	204	204	205	205
69	166	172	178	183	188	192	195	195	196	196
68	159	165	170	175	180	184	187	187	188	187
67	152	158	163	168	172	176	178	179	179	179
66	145	151	156	160	165	168	170	171	171	171
65	138	144	149	153	157	161	163	163	164	163
64	132	137	142	146	150	153	155	156	156	156
63	126	131	135	139	143	146	148	149	149	149
62	120	124	129	133	136	139	141	142	142	142
61	114	119	123	126	130	132	134	135	135	135

Rarity 5. Incidence 5 per ten thousand. Rarest of the great cat mesomorphs and the only representative of this family of mesomorphic royalty at the level of the 9-total. We are now within the borders of the territory of the powerful athletes, although only at its edge, and here we begin to mingle also with the martial royalty of the earth. King Arthur or Lancelot may have been a 2 6 1, although it is more likely that both were 2 7 2's.

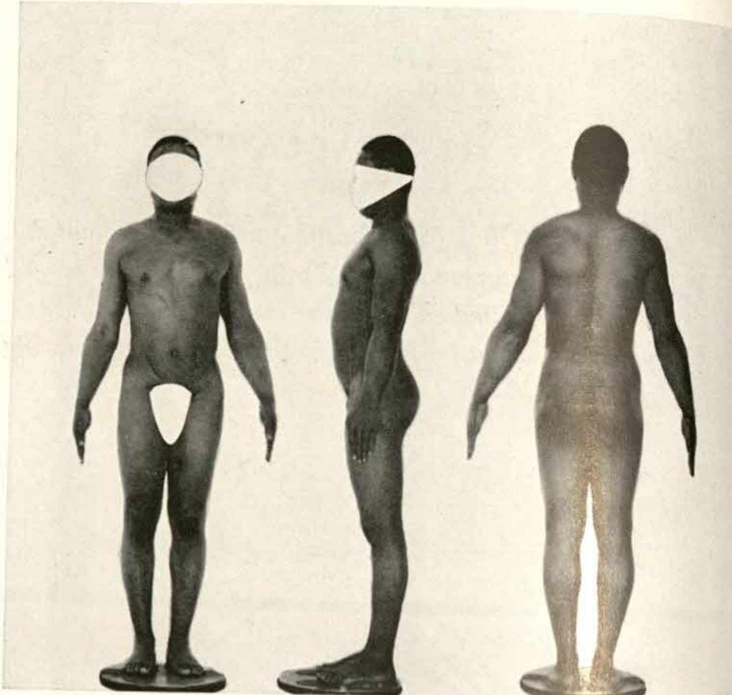
The 2 6 1 is equipped with heavy moving parts, requiring a generous blood supply and levying a constant heavy demand on the cardiovascular system. When a man of this constitutional pattern is endowed with an unusually sound cardiovascular system, the outlook for long life may be excellent. But if its quality is not of the best, the excessive demands almost inevitably imposed by the powerful mesomorphic structure may cause abrupt failure. When this occurs, men of such a somatotype do not usually die a lingering death, but collapse suddenly, like a punctured or blown-out tire. The *locus minoris resistentiae* is most likely to be found in the peripheral (small) vessels supplying brain or kidneys, or the heart itself. Thus three very common causes of death, for the big cat mesomorphs, are apoplexy, renal failure, and the acute coronary "accident."



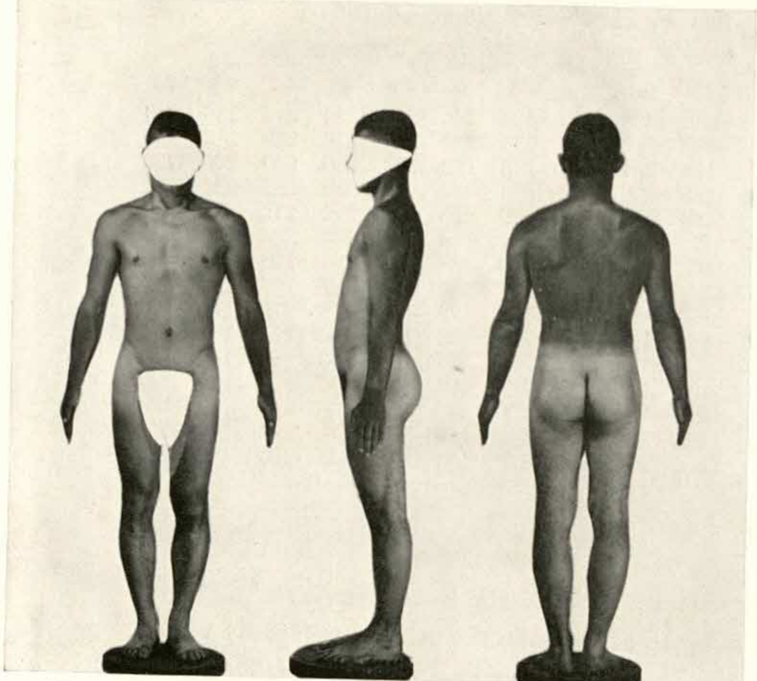


No. 320 *2 6 1* *(1)* 2 6 1–2 6 1 12.56 at 19
2 6 1, 2 6 1½, 2 6 1, 2 6 1, 2 6 1½

261

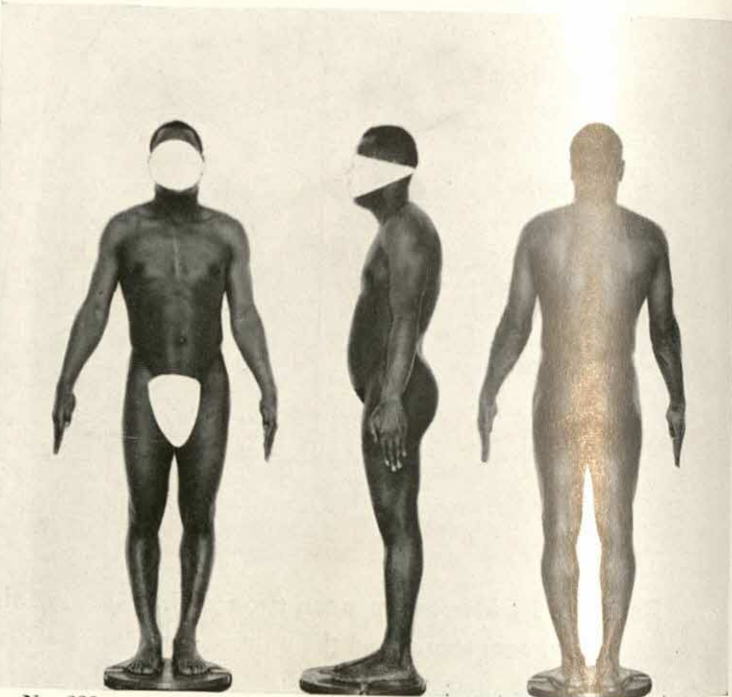


No. 321 *2 6 1* *(2)* 2 6 1–2 6 1 12.07 at 37
2½ 6 1, 2 6 1½, 2 6½ 1, 2 6 1, 2½ 6 1½

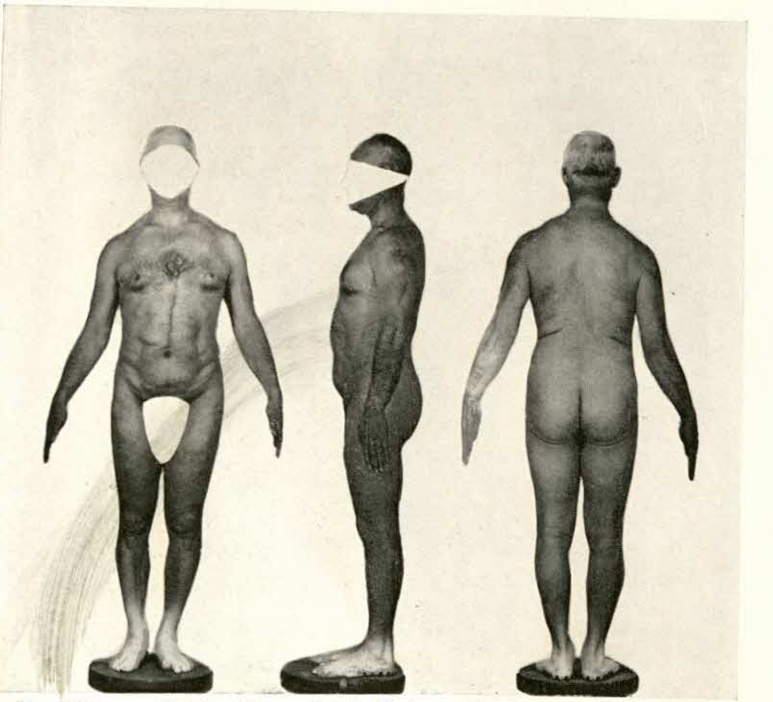


No. 322 *2 6 1* *(3)* 2 6 1–2 6 2 (2 6 1½) 12.51 at 22
2 6½ 1, 2 6 2, 2 5½ 1½, 2 6 1½, 2 5½ 1½

261

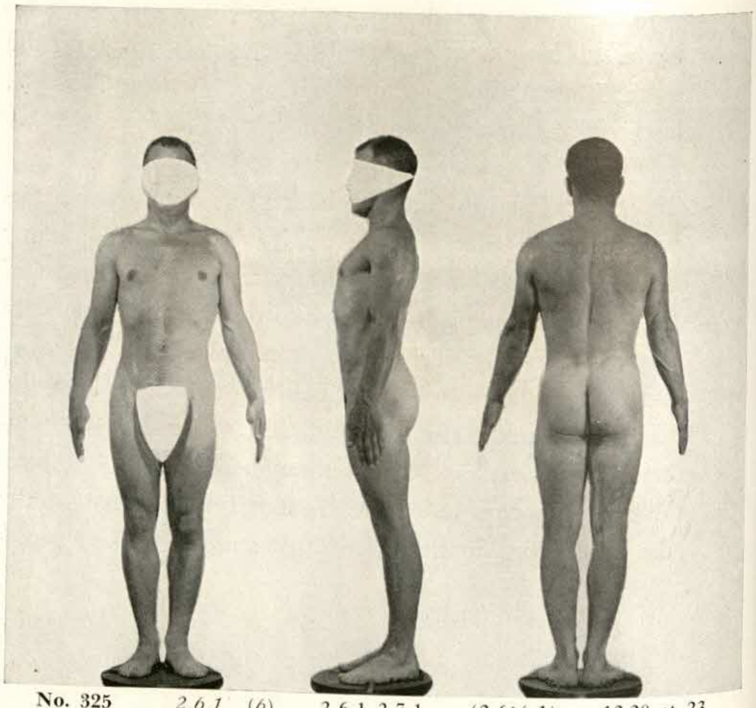


No. 323 *2 6 1* *(4)* 2 6 1–2 6 2 (2 6 1½) 12.12 at 39
2½ 6½ 1, 2 6 1½, 2 5½ 1½, 2 6½ 1, 2 6½ 1½

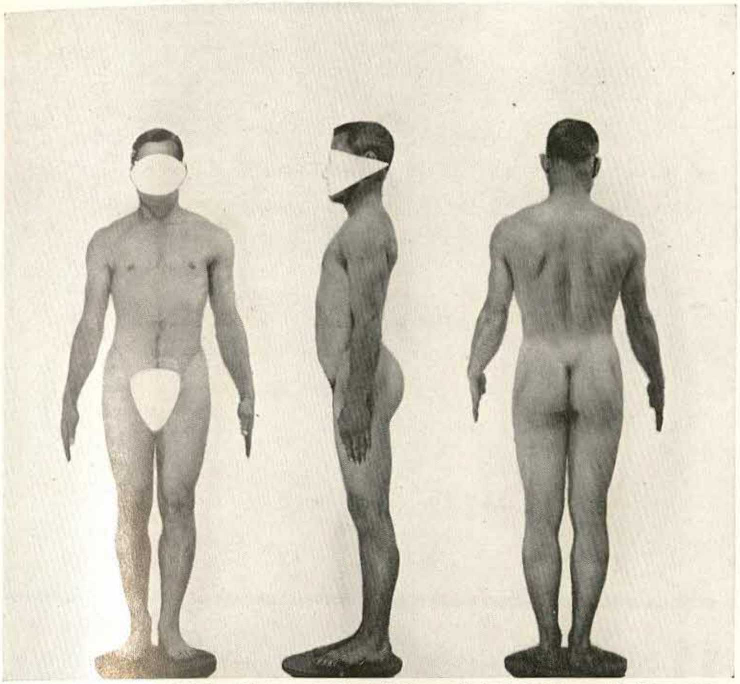


No. 324 *2 6 1* *(5)* 2 6 1–2 6 2 (2 6 1½) 12.05 at 54
1½ 6 2, 2 6 1½, 2 6 1½, 2½ 5½ 1½, 2½ 6 1½

261

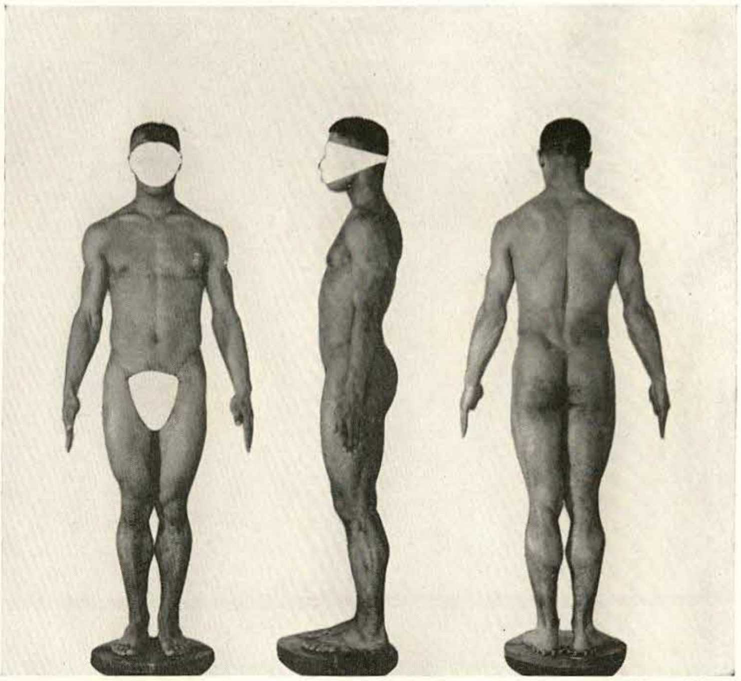


No. 325 *2 6 1* *(6)* 2 6 1–2 7 1 (2 6½ 1) 12.20 at 23
2 6½ 1, 2 6½ 1, 2 6½ 1, 2 6 1½, 2 6 1½

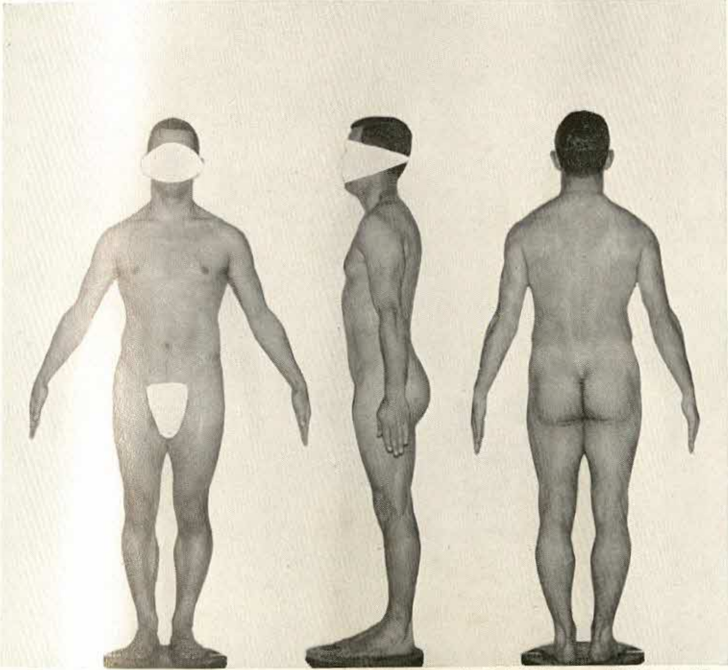


No. 326 *2 6 1* *(7)* 2 6 1–2 7 2 (2 6½ 1½) 12.47 at 19
2 6½ 1, 2 7 1½, 2 6½ 1, 2 6½ 1½, 2 6½ 1½

261

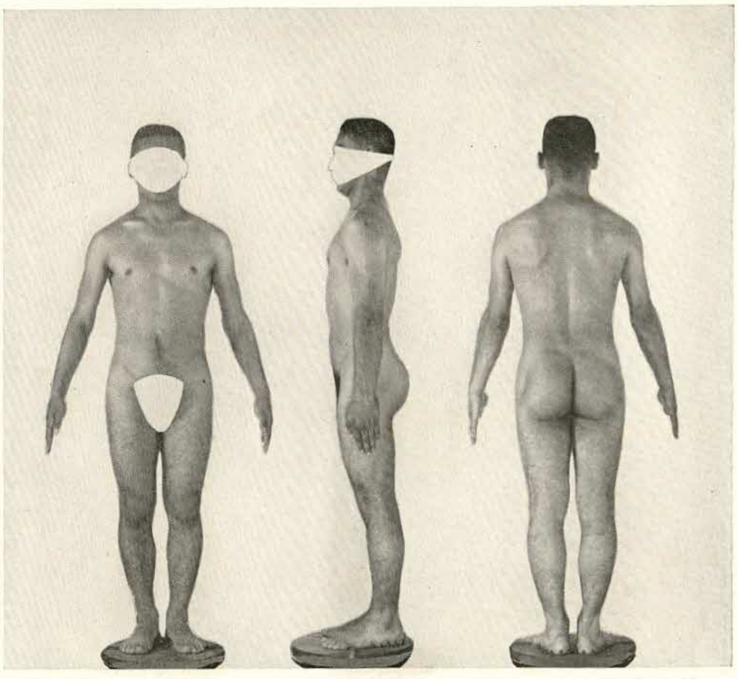


No. 327 *2 6 1* *(8)* 2 6 1–2 7 2 (2 6½ 1½) 12.22 at 27
2 6½ 1½, 2 6 1½, 1½ 6½ 1½, 1½ 6½ 1½, 2 6½ 1½

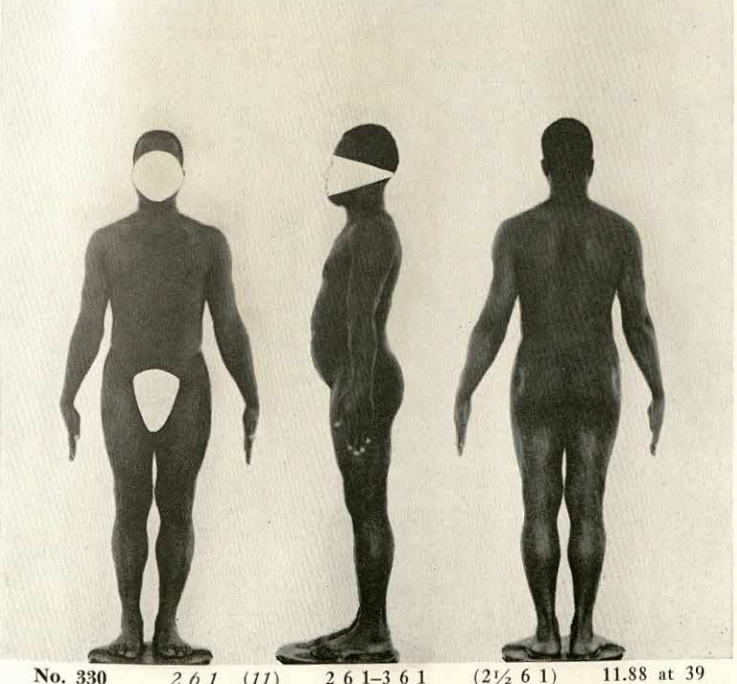


No. 328 *2 6 1* *(9)* 2 6 1–2 7 2 (2 6½ 1½) 12.21 at 27
2 7 1½, 2 6½ 1½, 2 6 1½, 2 6 1½, 2 6½ 1½

261

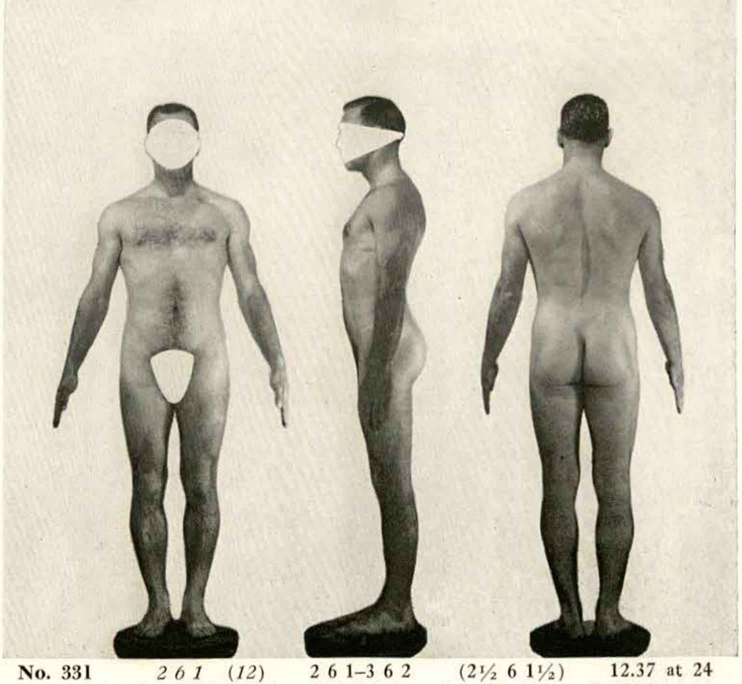


No. 329 *2 6 1* *(10)* 2 6 1–3 6 1 (2½ 6 1) 12.45 at 19
2½ 6 1, 2½ 6½ 1, 2½ 6½ 1½, 2½ 6 1½, 2½ 6 1

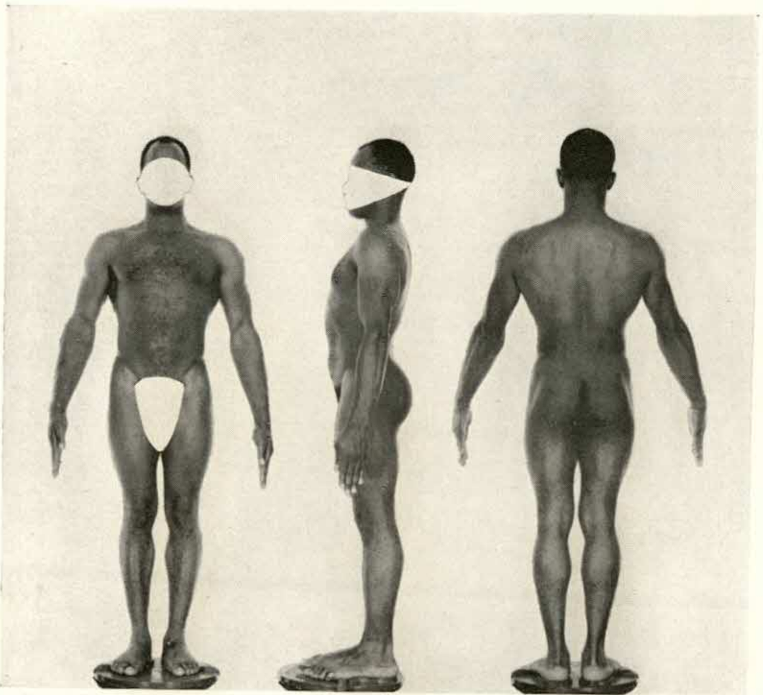


No. 330 *2 6 1* *(11)* 2 6 1–3 6 1 (2½ 6 1) 11.88 at 39
2½ 6 1, 2½ 6 1, 2½ 6 1½, 3 6 1, 2½ 6 1½

261

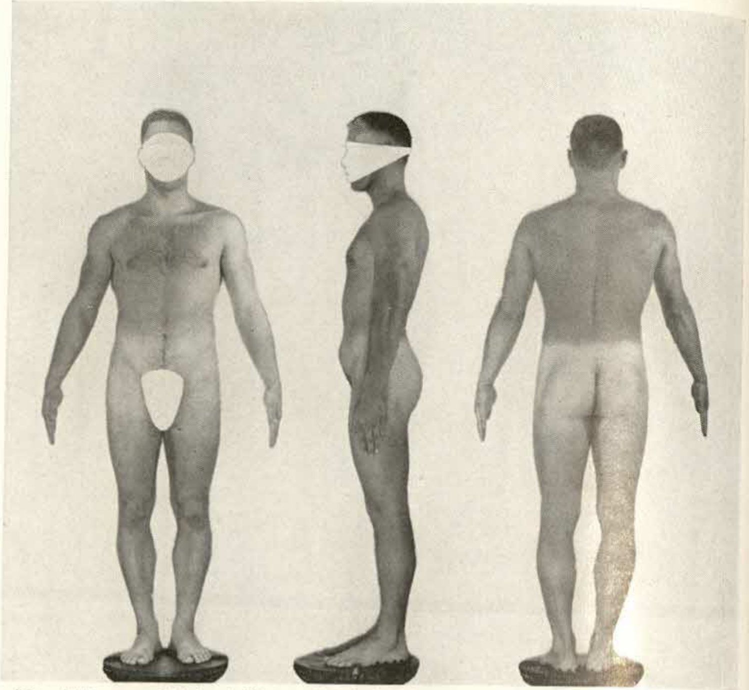


No. 331 *2 6 1* *(12)* 2 6 1–3 6 2 (2½ 6 1½) 12.37 at 24
2 6 1½, 2½ 6 1½, 2½ 6 1½, 2½ 5½ 1½, 2 6 1½

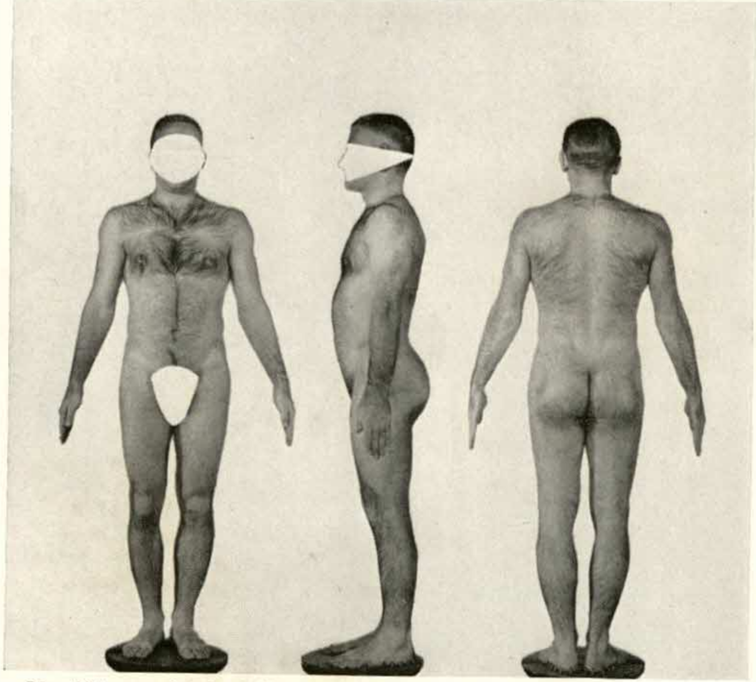


No. 332 *2 6 1* (*13*) 2 6 1–3 6 2 (2½ 6 1½) 12.22 at 28
2 6 2, 2½ 7 1½, 2 6½ 2, 2½ 6½ 1, 2½ 6½ 2

261

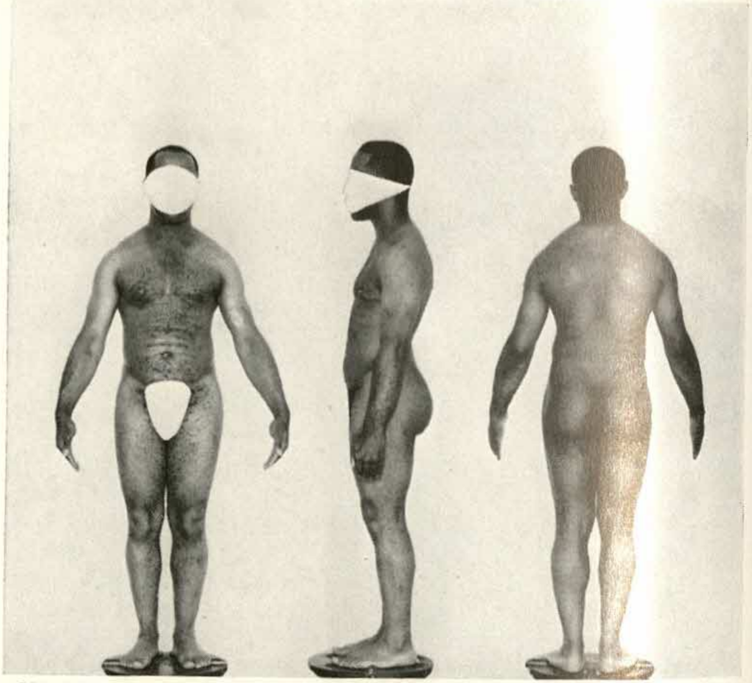


No. 333 *2 6 1* (*14*) 2 6 1–3 7 1 (2½ 6½ 1) 12.30 at 19
2½ 6 1, 2½ 6½ 1½, 2½ 6½ 1, 2½ 6½ 1½, 2½ 6 1

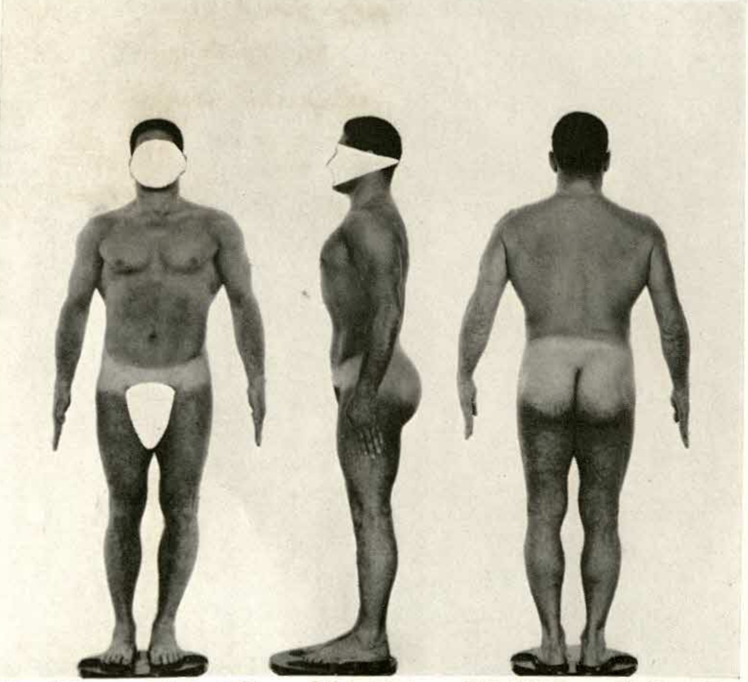


No. 334 *2 6 1* (*15*) 2 6 1–3 7 1 (2½ 6½ 1) 11.96 at 26
2½ 6½ 1, 2½ 6½ 1, 2½ 6 1½, 2½ 6½ 1, 2½ 6 1½

261

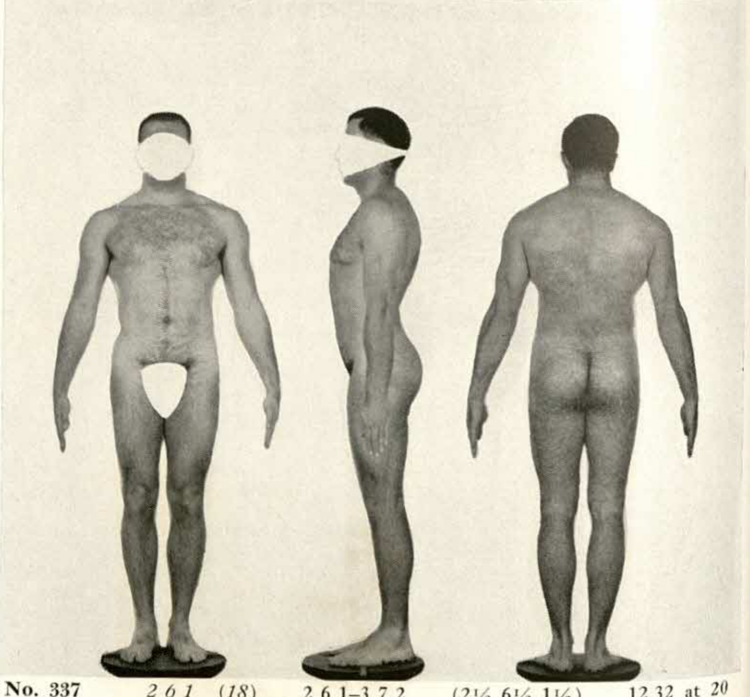


No. 335 *2 6 1* (*16*) 2 6 1–3 7 1 (2½ 6½ 1) 11.78 at 33
2½ 7 1½, 2 6 1, 2½ 7 1, 2½ 6½ 1, 3 7 1



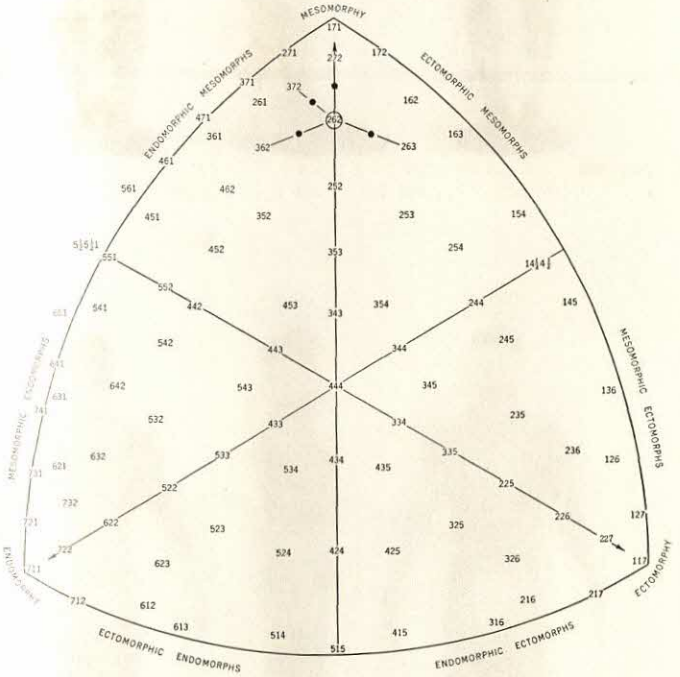
No. 336 *2 6 1* (*17*) 2 6 1–3 7 1 (2½ 6½ 1) 11.55 at 44
2½ 7 1, 2½ 7 1½, 2 6½ 1½, 2 6½ 1, 2½ 6½ 1

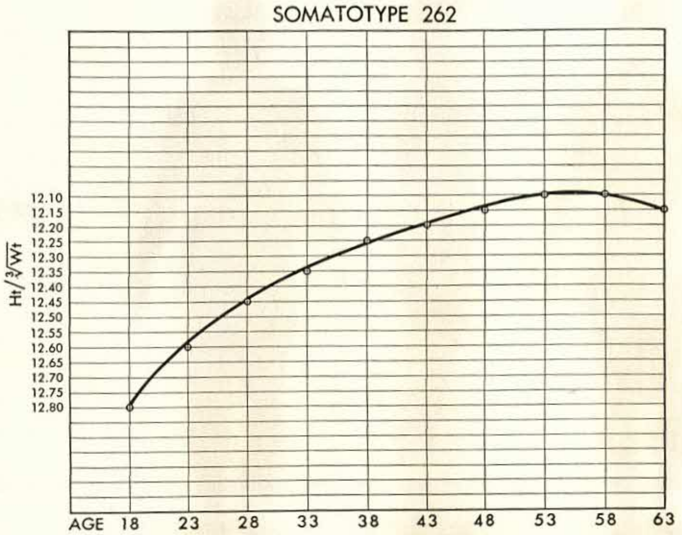
261



No. 337 *2 6 1* (*18*) 2 6 1–3 7 2 (2½ 6½ 1½) 12.32 at 20
2½ 6½ 1, 2½ 7 1½, 2 7 1½, 2½ 6 1½, 2½ 6½ 1½

Somatotype 2 6 2 *(Balanced extreme mesomorphy, 10 level.) Cougars, sometimes called pumas, or mountain lions. Taller, longer-legged and faster cats than jaguars. These were the panthers of our Eastern forests. Nos. 340–355.*



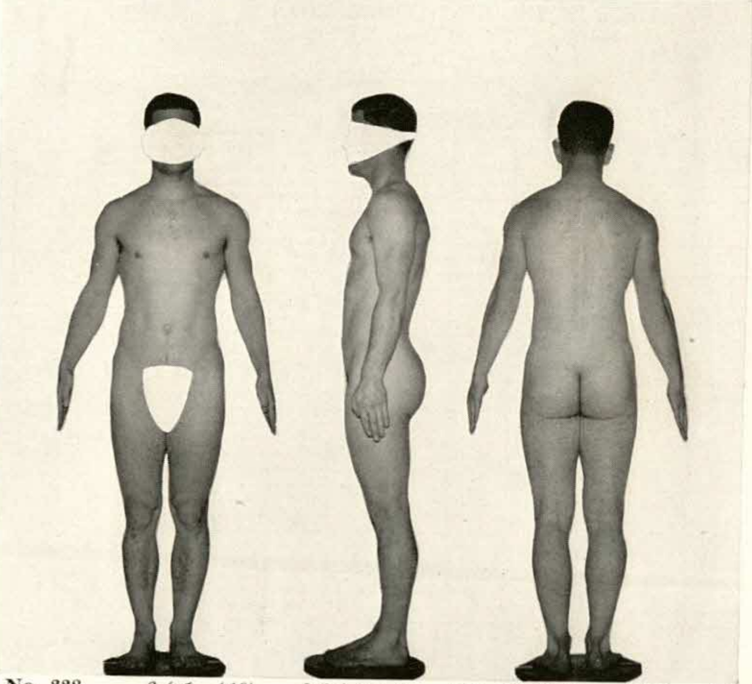


Weight for Age and Height

Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	202	213	220	224	231	232	237	237	237	236
74	194	205	210	215	222	223	227	228	228	227
73	186	197	202	206	212	214	218	218	218	218
72	179	189	194	198	204	206	209	210	210	209
71	172	182	186	190	196	198	201	202	202	201
70	165	174	179	183	188	190	193	194	194	193
69	157	166	170	174	179	181	184	185	185	184
68	151	159	163	167	171	173	176	177	177	176
67	144	152	156	159	164	166	168	169	169	168
66	137	145	149	152	156	158	161	161	161	161
65	131	138	142	145	149	151	154	154	154	154
64	125	132	135	138	142	144	146	147	147	146
63	119	126	129	132	136	137	140	140	140	139
62	114	120	123	126	130	131	133	134	134	133
61	108	114	117	120	123	125	127	127	127	127

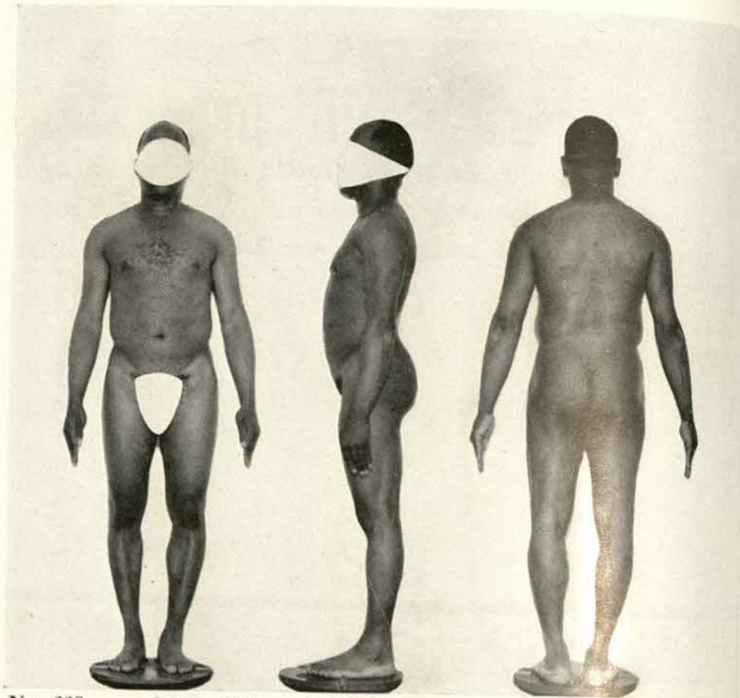
Rarity 3. Incidence 10 per thousand. Seen twenty times more frequently than the rare 2 6 1. This somatotype, together with its still more numerous cousins the 2 6 3 and the 3 6 2, and its scarcer cousin the 4 6 2, defines the picture of the most often encountered successful athlete. These four somatotypes make up about 4.8 per cent of the male population. The remainder of the 6's and 7's in mesomorphy, all of them rarity 4 or rarity 5, make up collectively about another 2.2 per cent. Even if we allow for a small sprinkling of 5's in mesomorphy among the topflight athletes of the country, it is apparent that the four somatotypes named must constitute something in the neighborhood of two thirds of them. So when you watch a baseball game between the Yankees and the Red Sox, with possibly thirty players appearing on the field in the course of the afternoon, you can approximately somatotype most of them merely by playing the averages. Probably two thirds of the players are 2 6 2's, 2 6 3's, 3 6 2's, or 4 6 2's. If it were professional football, the same somatotypes would almost surely predominate, but there would be more 7's in mesomorphy, and in the lines would be six or eight of the heavier, extreme ectopenes like 3 7 1, 4 7 1, and even 5 6 1 (a heavyweight wrestler somatotype).

All in all it is probably good to be a 2 6 2. This is a somatotype of perhaps just under average longevity, for it is exposed to the same circulatory dangers that beset the later decades of the 2 6 1, and usually the extreme mesomorph does not *like* old age, but one thing is certain: It is good to be a *young* 2 6 2.

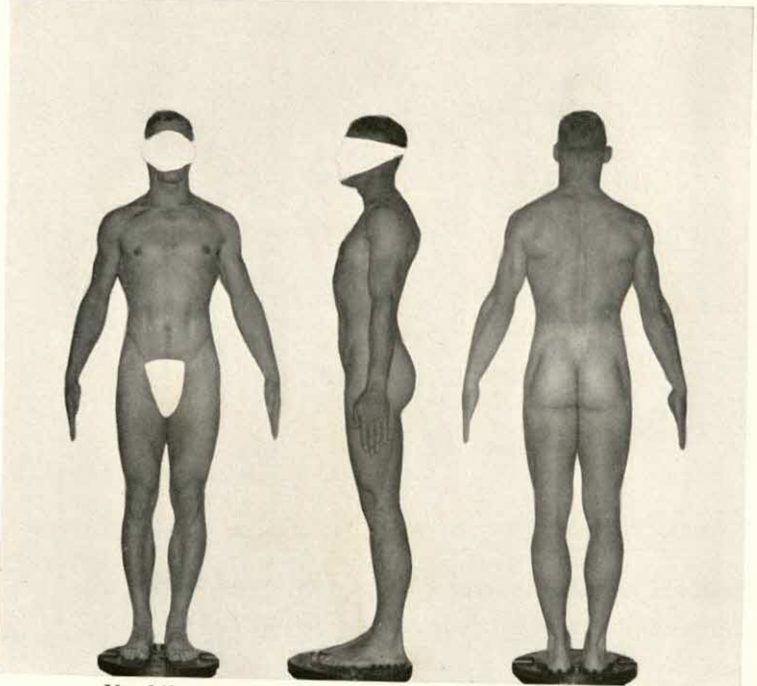


No. 338 *2 6 1* (*19*) 2 6 1–3 7 2 (2½ 6½ 1½) 12.22 at 23
2½ 6½ 1½, 2½ 6½ 1½, 2½ 6½ 1½, 2½ 6½ 1½, 2½ 6½ 1½

261

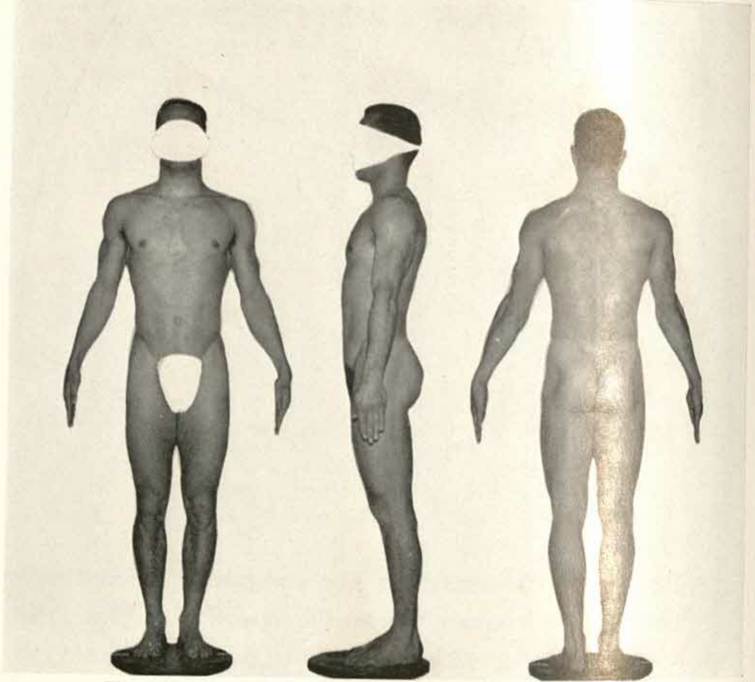


No. 339 *2 6 1* (*20*) 2 6 1–3 7 2 (2½ 6½ 1½) 11.87 at 34
2½ 6½ 1, 2½ 6½ 1½, 3 6 1½, 2½ 7 1, 2½ 6½ 1½

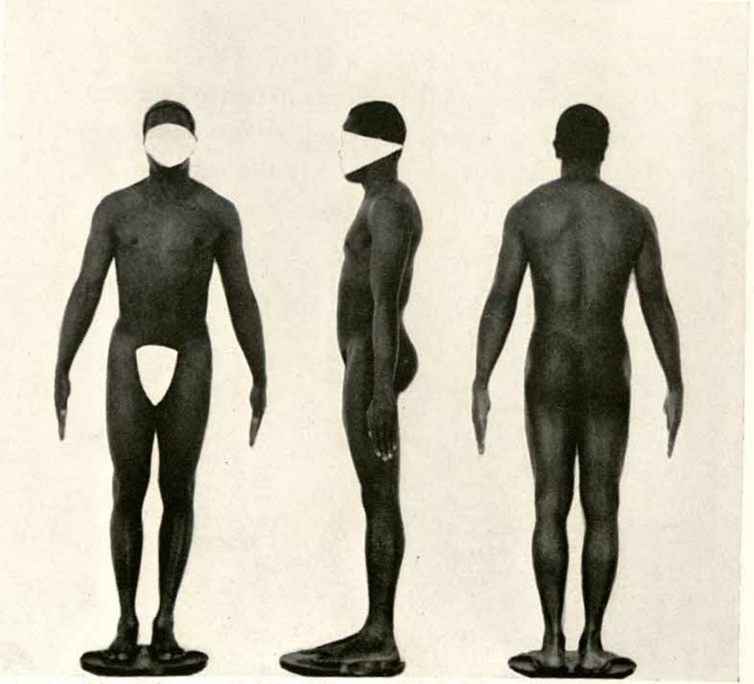


No. 340 *2 6 2* (*1*) 2 6 2–2 6 2 12.65 at 21
2 6 2, 2 5½ 2, 2 6 2, 1½ 5½ 2½, 2 6 2

262

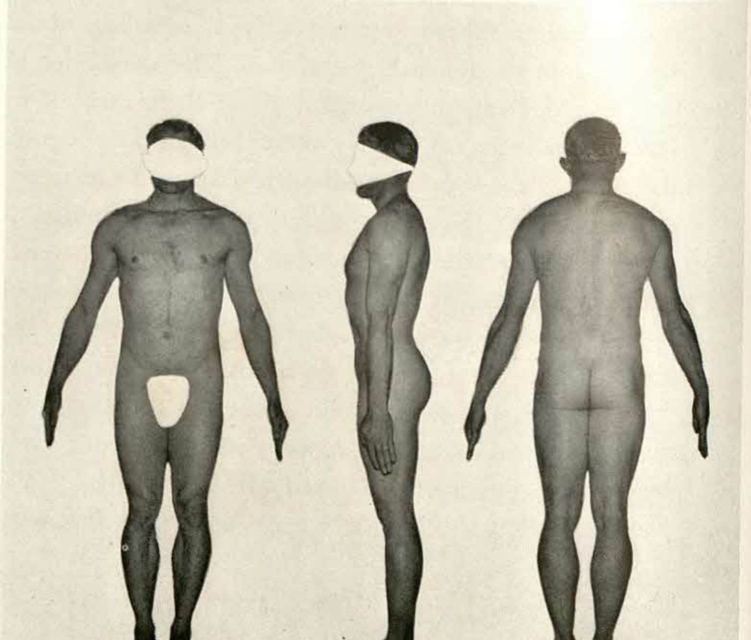


No. 341 *2 6 2* (*2*) 2 6 2–2 6 2 12.57 at 24
2 6 2, 2 6 2, 2 5½ 2, 1½ 5½ 2, 2 6 2

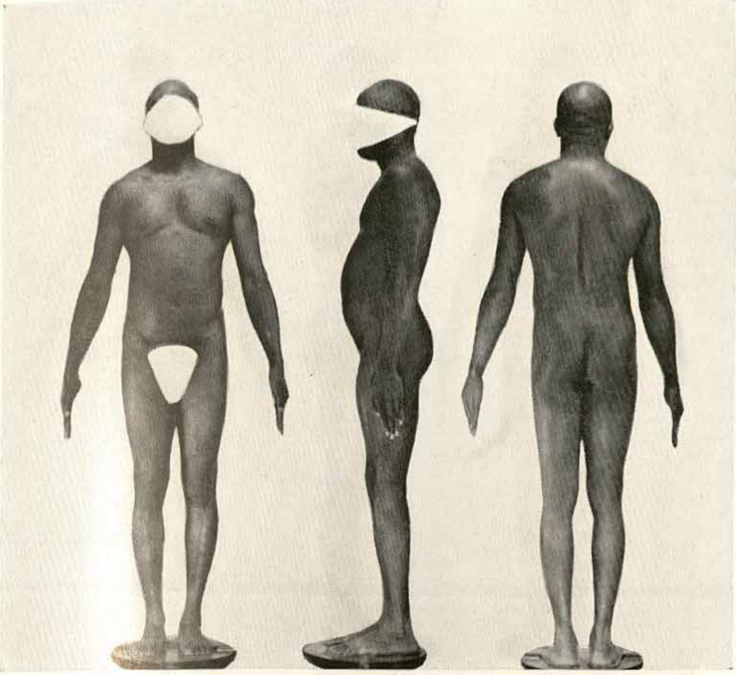


No. 342 *2 6 2* (*3*) 2 6 2–2 6 2 12.47 at 28
2½ 6 1½, 2 6 2, 2 6 2½, 2 6 2, 2½ 6 2½

262

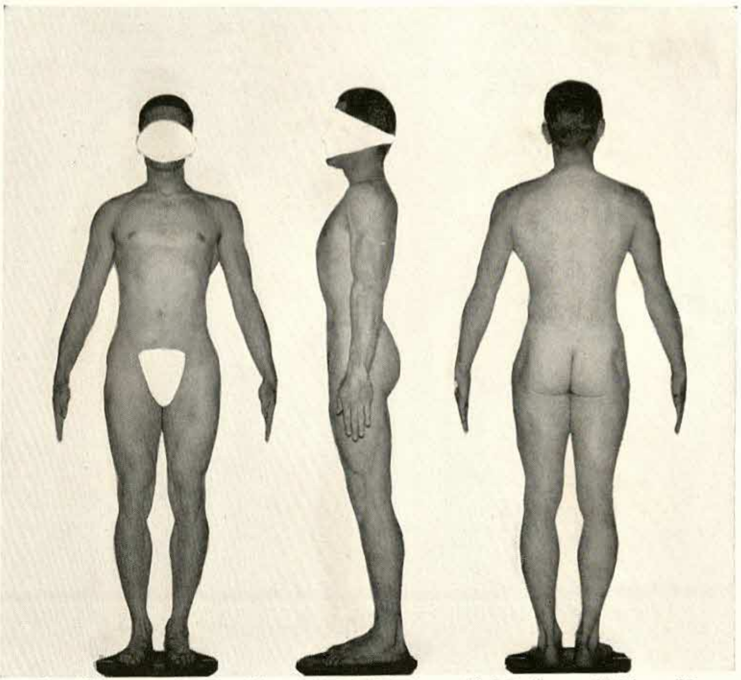


No. 343 *2 6 2* (*4*) 2 6 2–2 6 2 12.30 at 35
2 6 1½, 2 6½ 1½, 2 5½ 2½, 2 6 2, 2½ 6½ 2

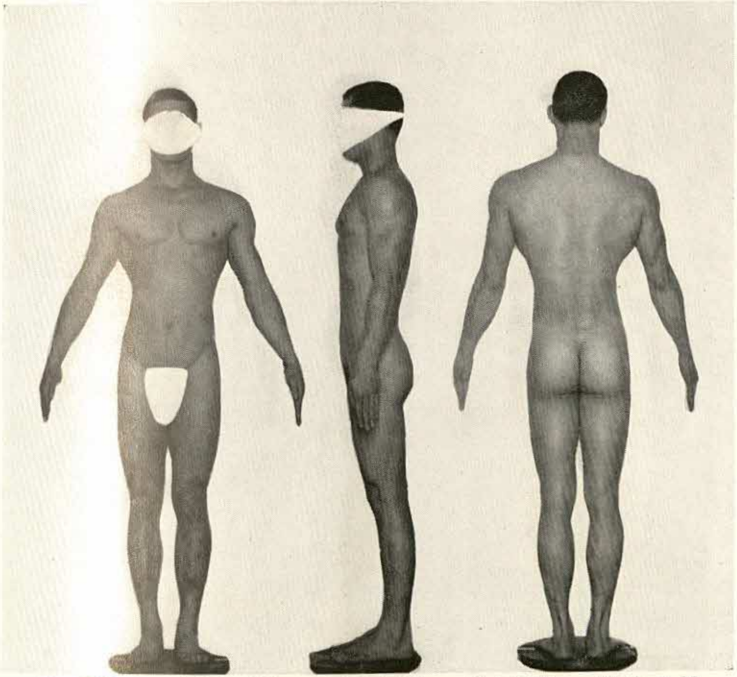


No. 344 *2 6 2* *(5)* 2 6 2–2 6 2 12.21 at 43
2 6½ 1, 2 6 2, 2 6 2½, 2 6½ 1½, 2 5½ 3

262

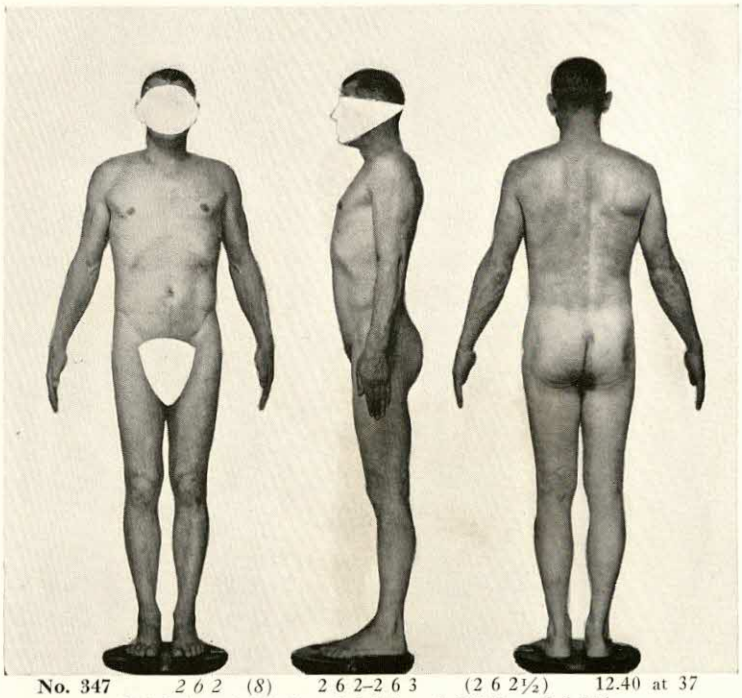


No. 345 *2 6 2* *(6)* 2 6 2–2 6 3 (2 6 2½) 12.71 at 23
2 6 2½, 2 6 2½, 2 6½ 2, 1½ 5½ 2, 2 6½ 2

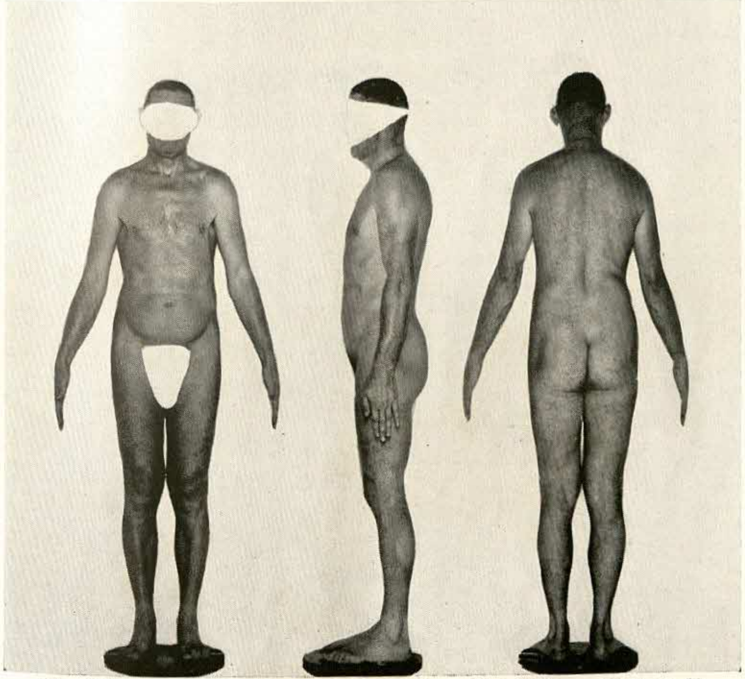


No. 346 *2 6 2* (7) 2 6 2–2 6 3 (2 6 2½) 12.69 at 23
2 6 2½, 2 7 2, 2 6 2, 2 5½ 3, 2½ 6½ 2

262

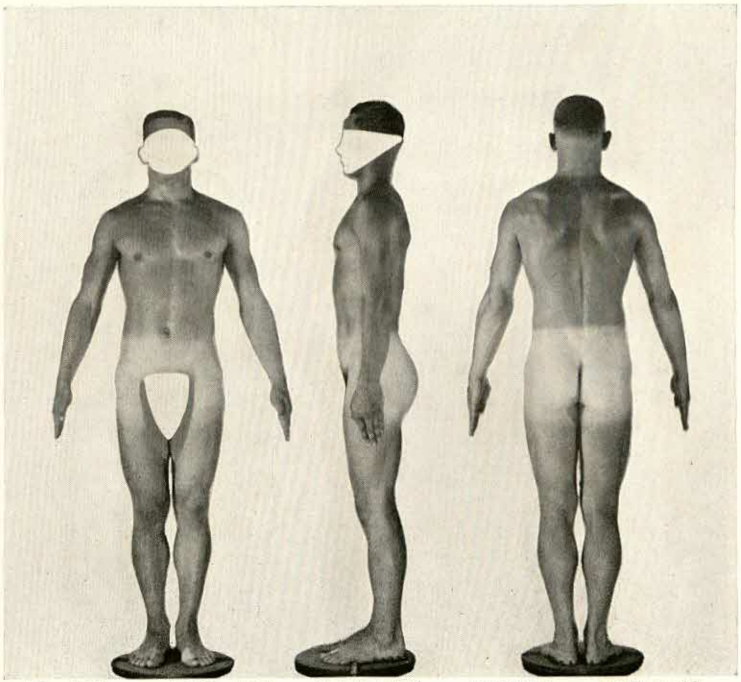


No. 347 *2 6 2* *(8)* 2 6 2–2 6 3 (2 6 2½) 12.40 at 37
2 6 2½, 2 6½ 2, 2 6 2½, 2 6 2½, 2 6 2½

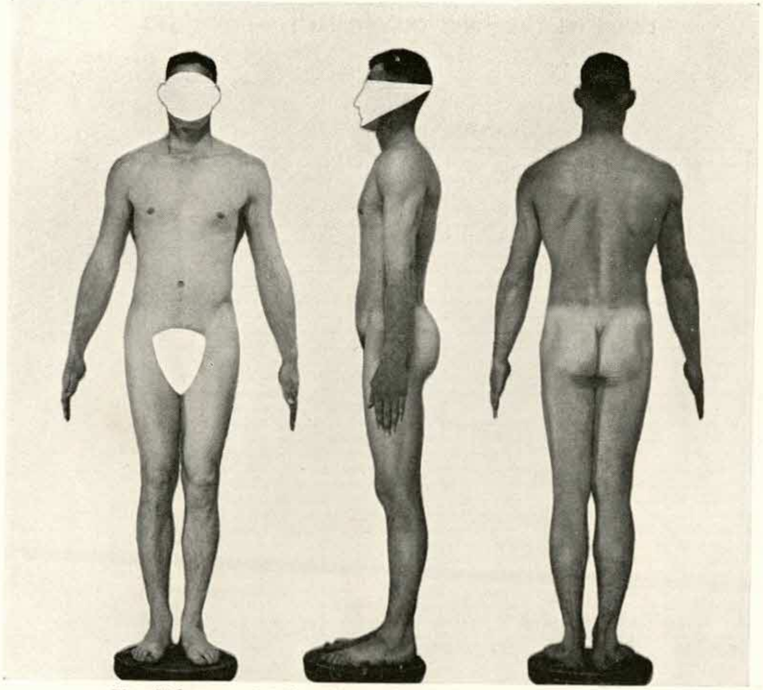


No. 348 *2 6 2* *(9)* 2 6 2–2 6 3 (2 6 2½) 12.31 at 63
2 6 2, 2 5½ 2½, 2 5½ 2½, 2 6 2½, 2 6 2½

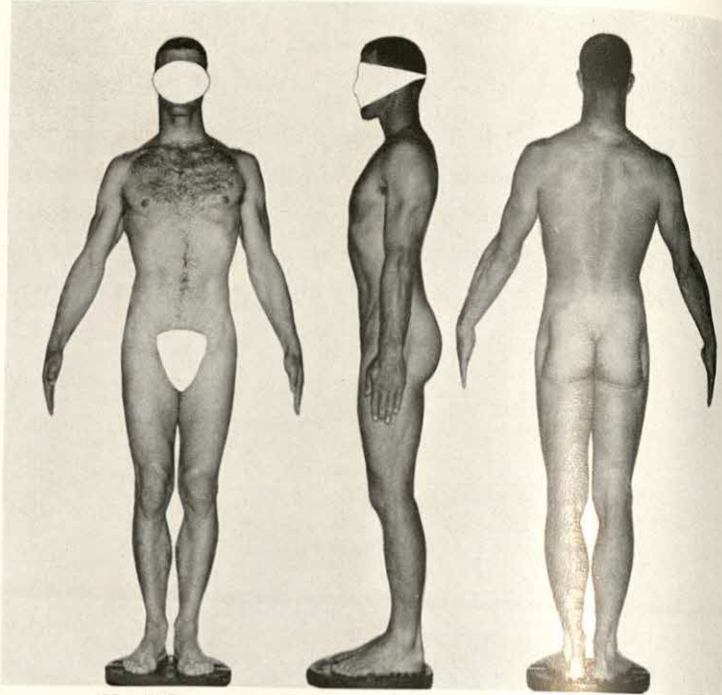
262



No. 349 *2 6 2* *(10)* 2 6 2–2 7 2 (2 6½ 2) 12.62 at 19
2 6½ 1½, 2 6½ 2, 2 6½ 2, 2 6½ 2, 2 6½ 1½

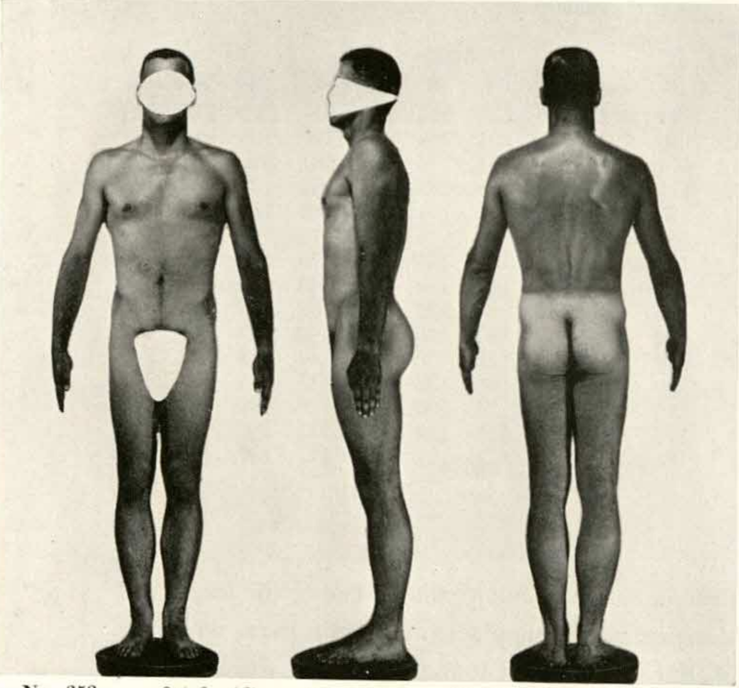


No. 356 *2 6 3* *(1)* 2 6 3–2 6 3 12.91 at 20
2 6 3, 2 6 2½, 2 6 2½, 1½ 6 3, 2 6 3

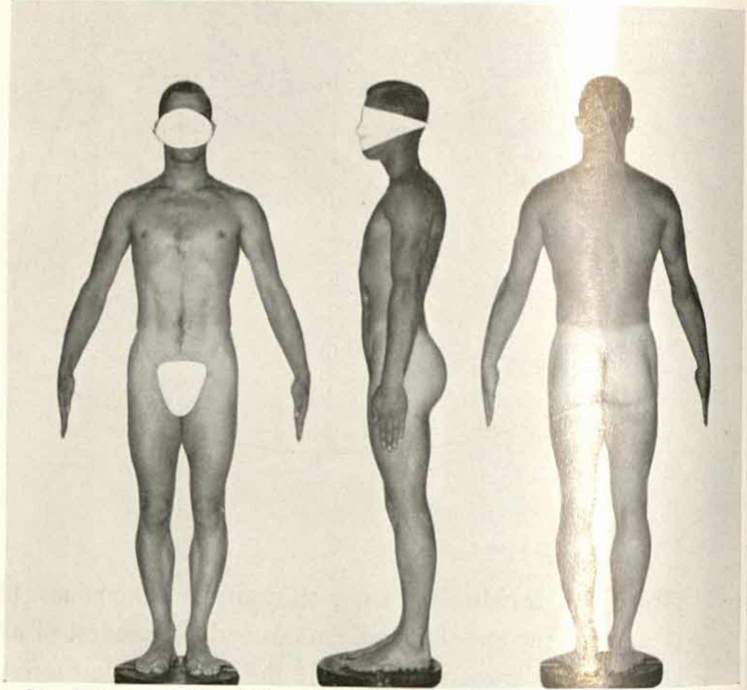


No. 357 *2 6 3* *(2)* 2 6 3–2 6 3 12.80 at 24
1½ 5½ 3, 2 6 3, 2 7 2, 2 5½ 3½, 2½ 6½ 2½

263

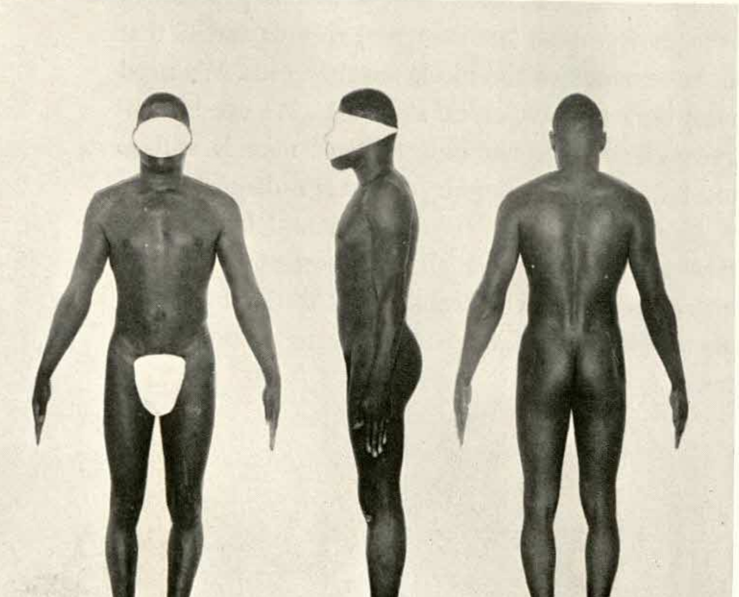


No. 358 *2 6 3* *(3)* 2 6 3–2 7 2 (2 6½ 2½) 12.57 at 23
2 6½ 2½, 2 6½ 2½, 2½ 6 2½, 2 6½ 2½, 2½ 6½ 2½

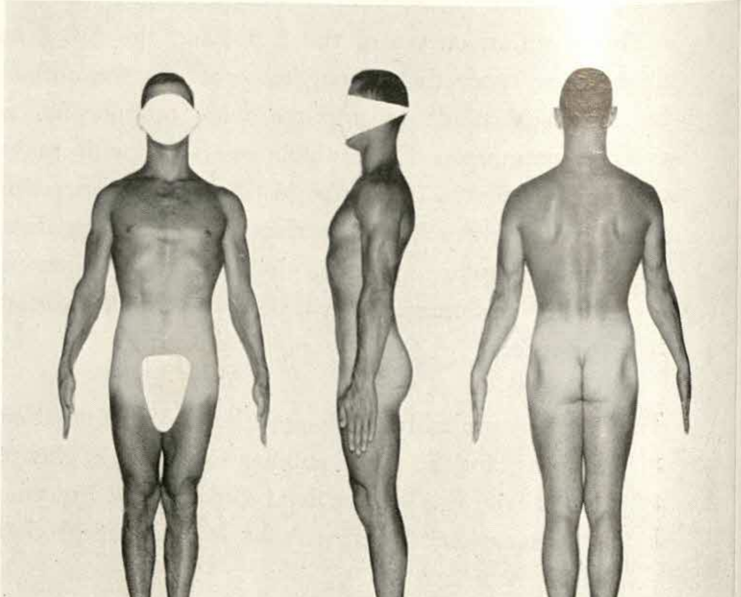


No. 359 *2 6 3* *(4)* 2 6 3–3 5 3 (2½ 5½ 3) 12.71 at 26
2½ 5 3, 2½ 5½ 3, 2½ 5½ 3, 2 5½ 3, 2½ 5½ 3

263

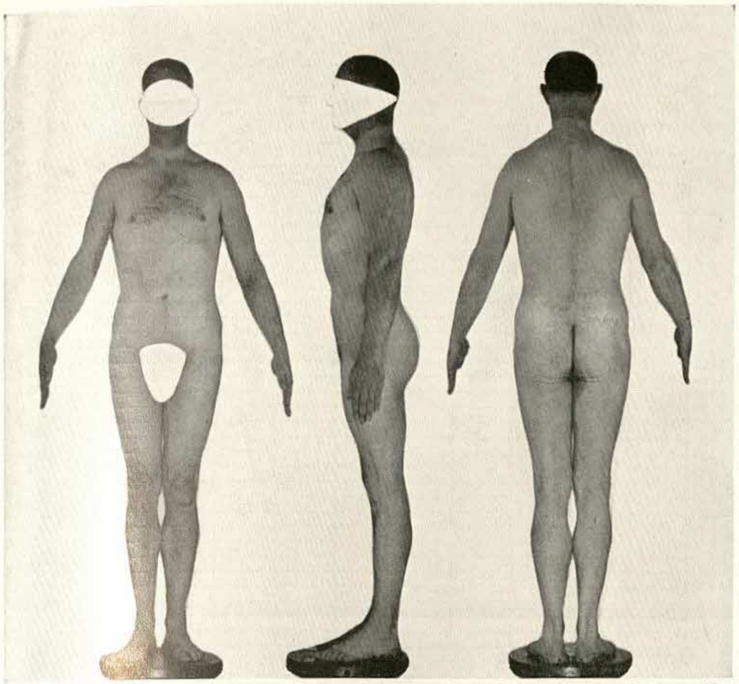


No. 360 *2 6 3* *(5)* 2 6 3–3 5 3 (2½ 5½ 3) 12.70 at 26
2½ 6 2½, 2 6 2½, 2½ 5 3½, 2 5½ 2½, 2½ 5½ 3



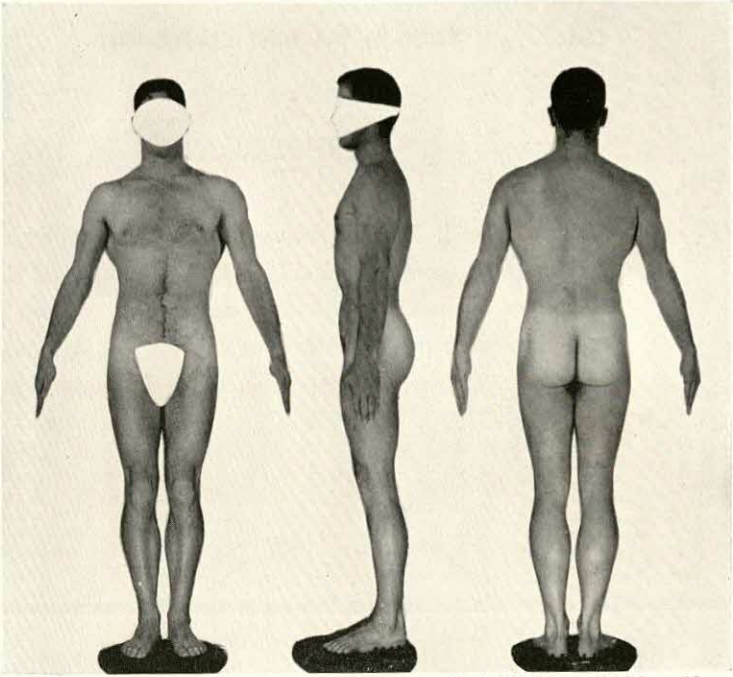
No. 361 *2 6 3* *(6)* 2 6 3–3 5 4 (2½ 5½ 3½) 12.93 at 22
2 5 4, 2½ 5½ 3½, 2 6 3, 2½ 5 3½, 2½ 5½ 3½

263

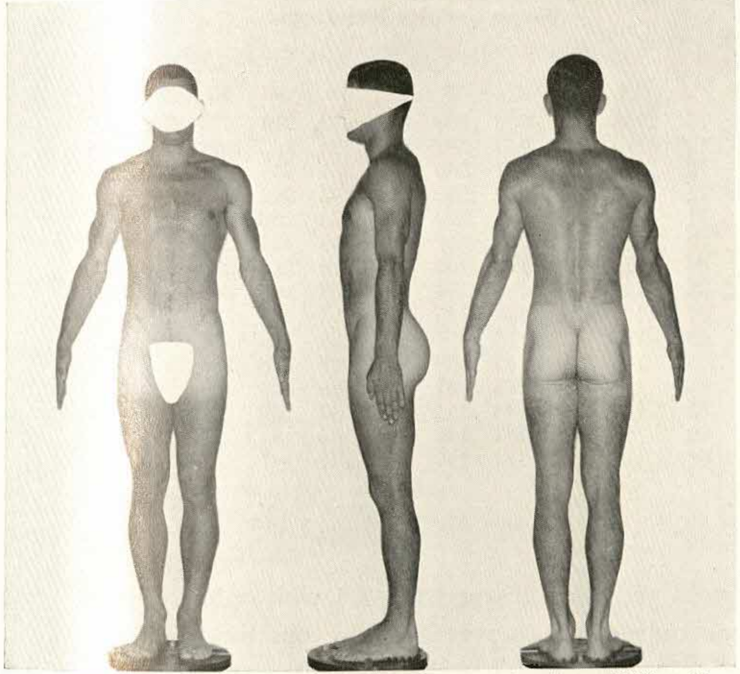


No. 362 *2 6 3* (*7*) 2 6 3–3 5 4 (2½ 5½ 3½) 12.43 at 48
2½ 5½ 3, 2½ 5 3½, 2½ 5½ 3, 2½ 5½ 3½, 2½ 5 4

263

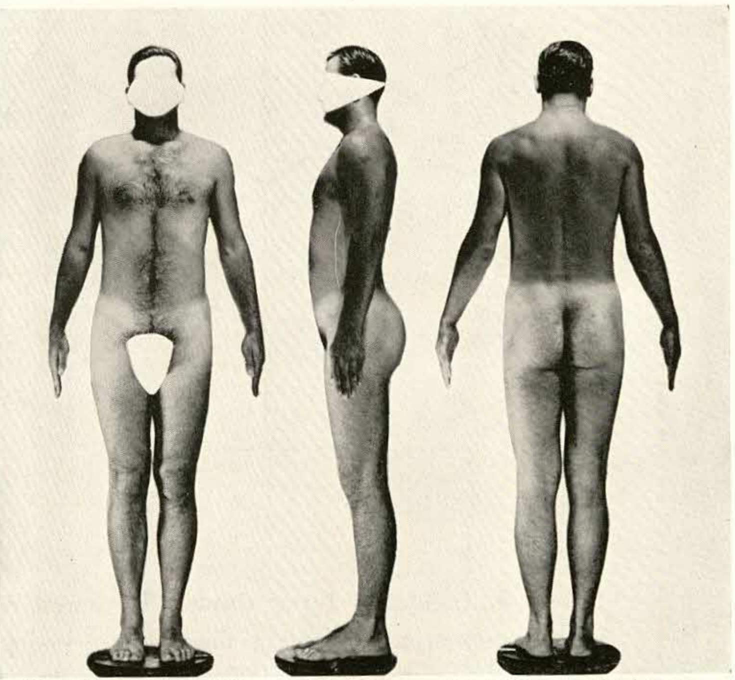


No. 363 *2 6 3* (*8*) 2 6 3–3 6 2 (2½ 6 2½) 12.78 at 19
2½ 6 2½, 2 6 3, 2½ 6 2½, 2½ 5½ 2½, 2½ 5½ 2½

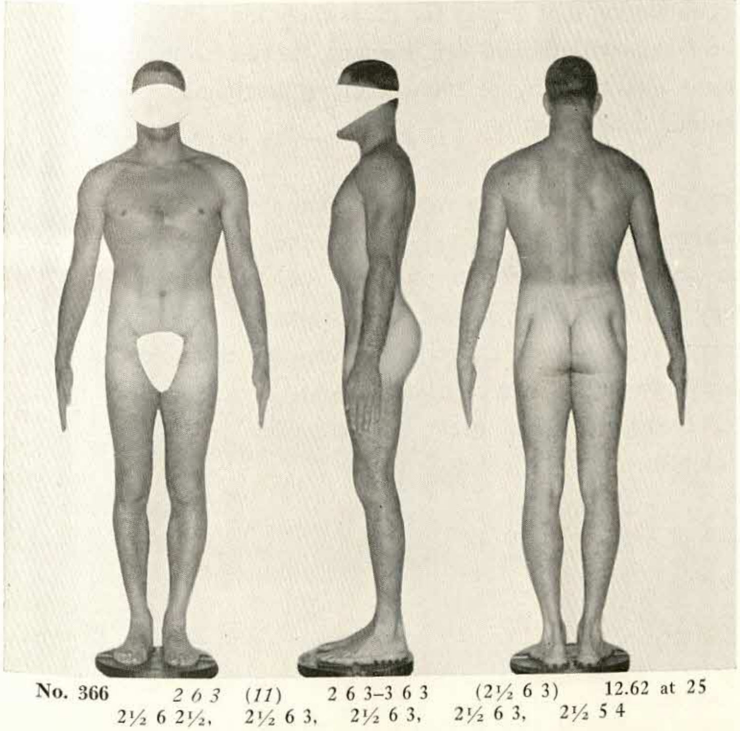


No. 364 *2 6 3* (*9*) 2 6 3–3 6 2 (2½ 6 2½) 12.60 at 22
2½ 6 2, 2½ 6 2½, 2 6 2½, 2 6 2½, 2½ 6 2½

263

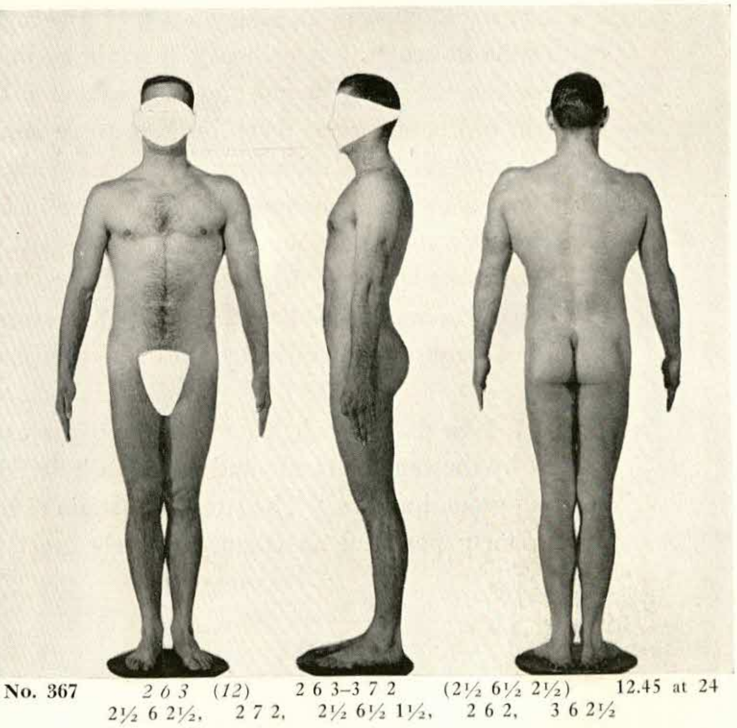


No. 365 *2 6 3* (*10*) 2 6 3–3 6 2 (2½ 6 2½) 12.25 at 42
2½ 6 2, 2½ 6 2½, 2½ 6 2½, 2½ 6 2, 3 6 2½



No. 366 *2 6 3* (*11*) 2 6 3–3 6 3 (2½ 6 3) 12.62 at 25
2½ 6 2½, 2½ 6 3, 2½ 6 3, 2½ 6 3, 2½ 5 4

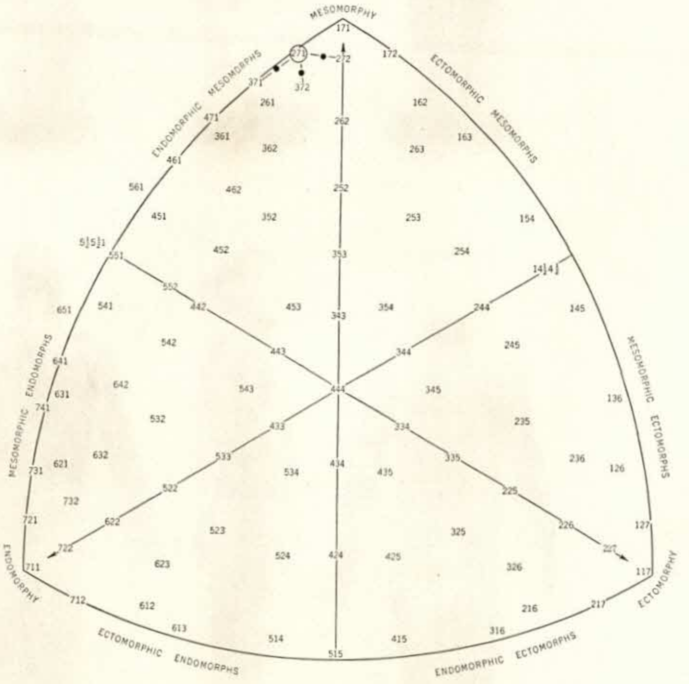
263

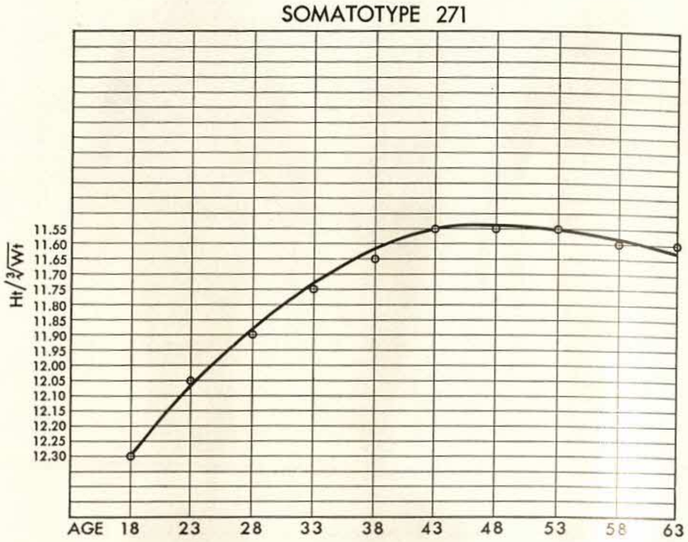


No. 367 *2 6 3* (*12*) 2 6 3–3 7 2 (2½ 6½ 2½) 12.45 at 24
2½ 6 2½, 2 7 2, 2½ 6½ 1½, 2 6 2, 3 6 2½

14. SUPERCATS

Somatotype 2 7 1 *(Endomorphic polar mesomorphy at extreme ectopenia, 10-level.) Lions and Bengal tigers. Strongest, heaviest, most compact of the modern great cats, although of course less agile than the cougars and leopards. The traditional royalty of the animal world. Nos. 368–376.*





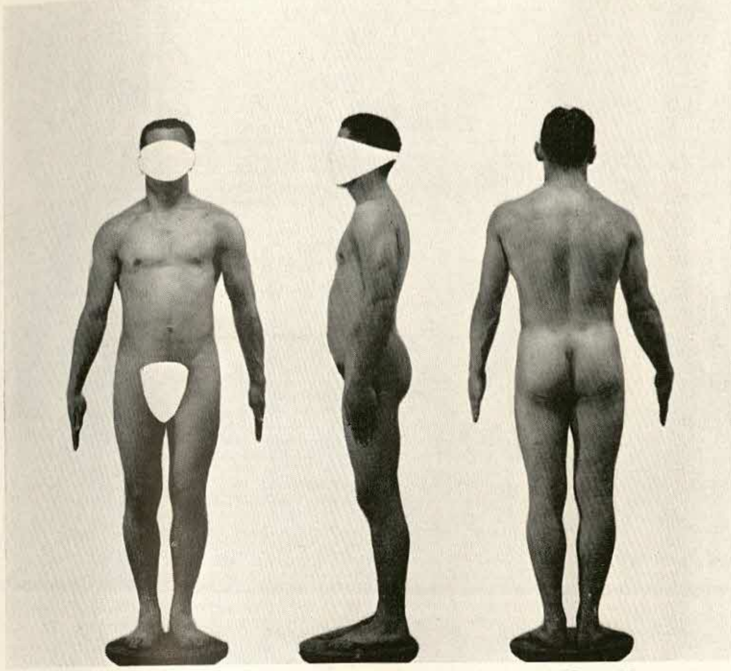
Weight for Age and Height

Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	228	242	250	260	266	273	273	273	272	271
74	219	233	240	250	255	262	262	262	261	260
73	211	223	231	240	245	251	251	251	250	249
72	202	214	222	230	236	242	242	242	241	240
71	194	206	213	220	226	232	232	232	231	230
70	186	197	205	212	217	223	223	223	222	220
69	178	189	196	203	208	214	214	214	213	211
68	170	181	188	194	199	205	205	205	204	202
67	162	172	178	185	189	195	195	195	194	192
66	155	165	170	177	181	186	186	186	186	184
65	148	157	163	168	173	178	178	178	177	175
64	141	150	155	161	165	169	169	169	169	167
63	134	143	148	154	157	162	162	162	161	159
62	128	136	141	147	150	154	154	154	154	152
61	122	130	134	140	143	147	147	147	146	145

Rarity 4. Incidence 1 per thousand. Rarest of the polar mesomorphs, excepting the extreme endopenes, this is the somatotype of Hercules. Nearly all of the known representations of Hercules are clearly 2 7 1 in somatotype, or an exaggeration of it (exaggeration of the muscular development). It might be thought that for the Greeks to picture anybody as a 2 7 1 was no great distinction, since much of their art represented the male subject as a 7 in mesomorphy, and in vigorous training too, but the extreme ectopenia is rare in Greek art. Hercules and Zeus must have been regarded as 2 7 1's, while the rest of the fraternity of the gods seem to range all the way from about 2 5 4 to 2 7 2, excepting possibly Dionysos who is usually more endomorphic.

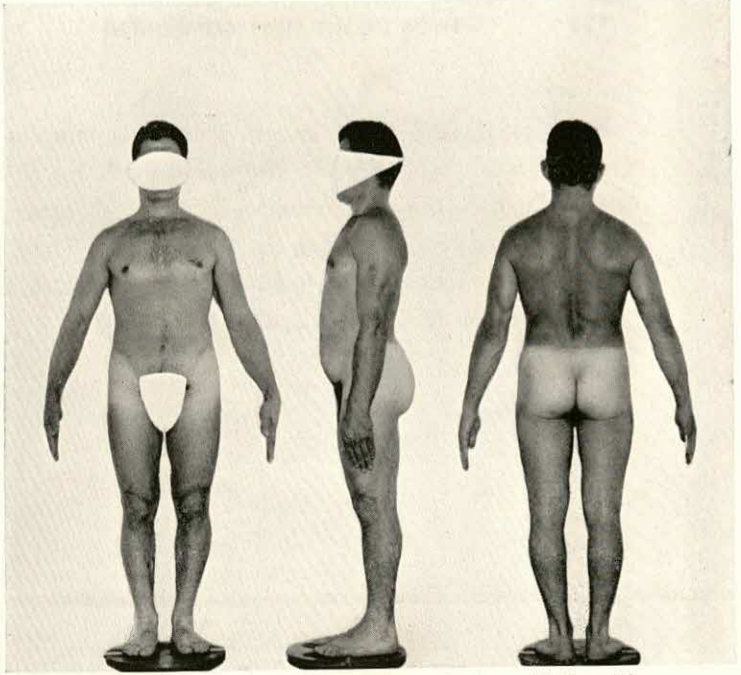
The 2 7 1 tends to reach his maximal weight early—usually by the time he is 40—and in his sixth decade he is losing ground as a rule. The stress and strain of life in so extremely powerful an engine is surely great. One would perhaps not expect a 2 7 1 with ordinary heart and ordinary blood vessels to live out the traditional seven decades. But at least a few of this somatotype are extremely long lived, and in our project evidence is now accumulating that among the *excessively* long lived men, the nonagenarians and centenarians, these ectopenic extreme mesomorphs are more than proportionally represented.

One of the many things we do not know is this: Do the extreme mesomorphs usually have *superior* cardiovascular equipment, as compared with average people? Do they in fact need to have better equipment in order to carry on past middle age? However this may be, the cardiovascular system of a centenarian 2 7 1 ought to be of great interest to biologists.

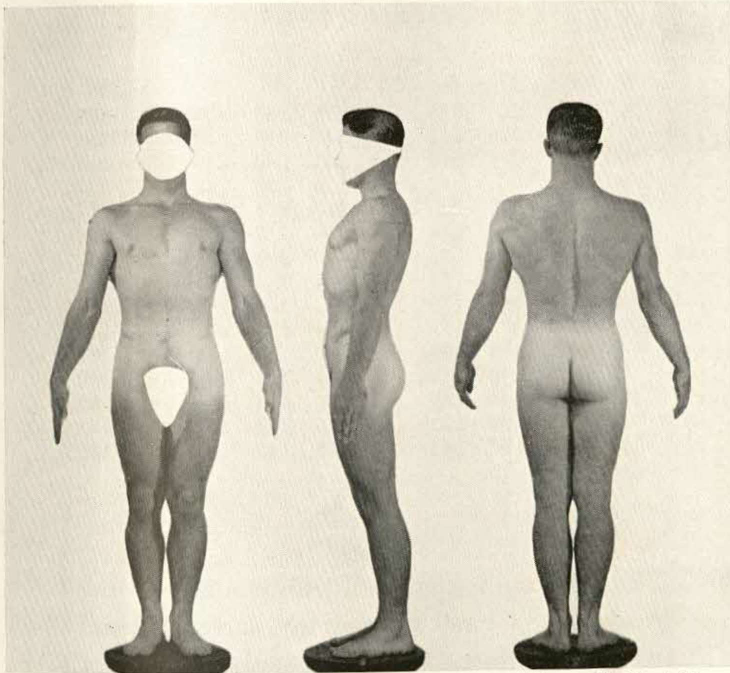


No. 368 *2 7 1* (*1*) 2 7 1–2 7 1 12.07 at 23
2 7 1, 2 6½ 1½, 2 7 1, 2 7 1, 2 6½ 1½

271

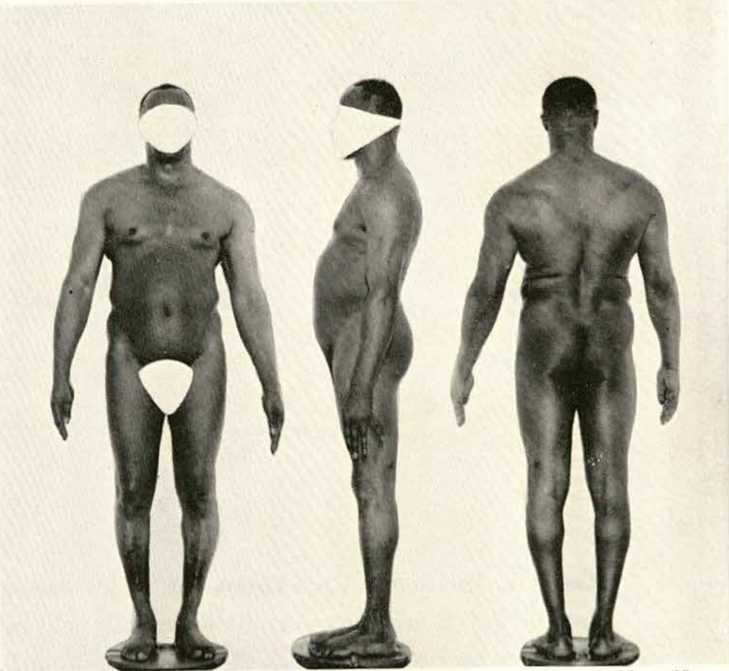


No. 369 *2 7 1* (*2*) 2 7 1–2 7 1 11.60 at 40
2 7 1, 2 6½ 1, 2 7 1, 2 7 1, 2 6½ 1½

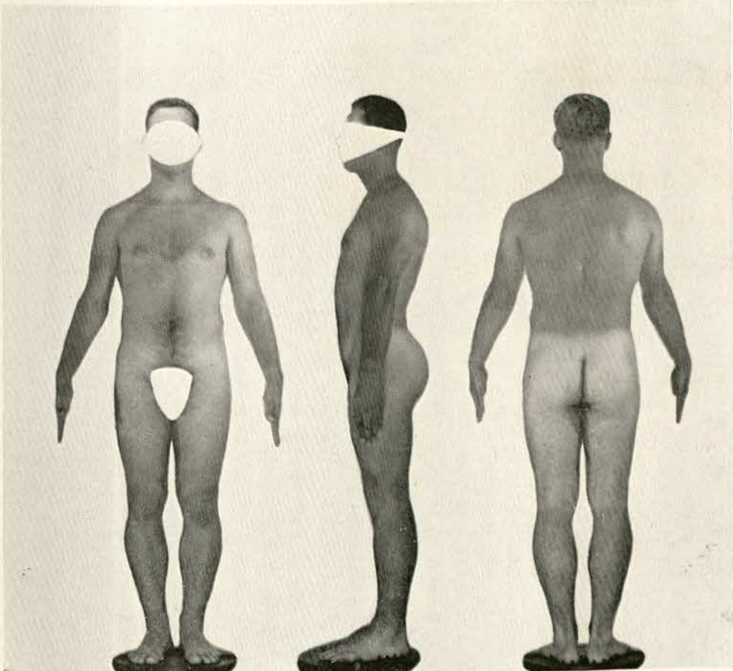


No. 370 *2 7 1* (*3*) 2 7 1–2 7 2 (2 7 1½) 12.35 at 20
2 7 1½, 2 7 1½, 2 7 1, 2 6½ 1½, 3 6½ 1

271

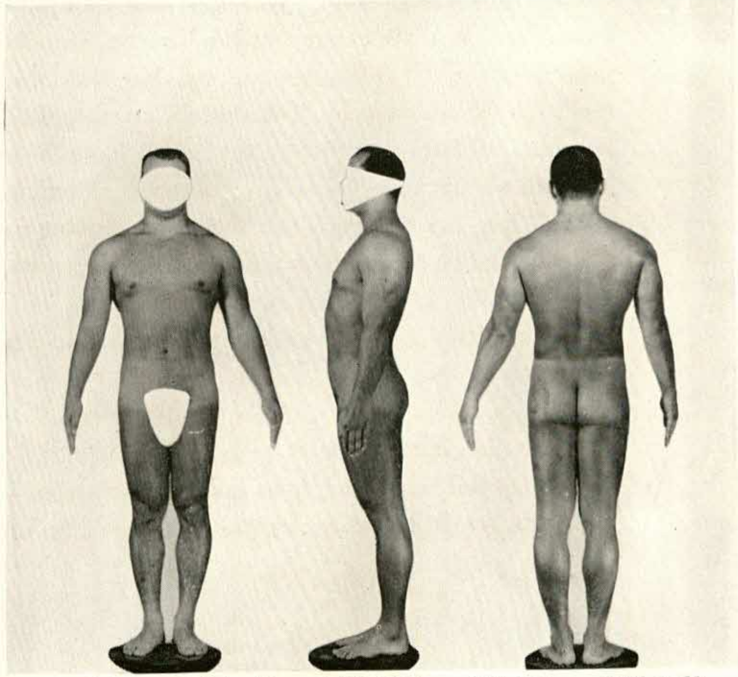


No. 371 *2 7 1* (*4*) 2 7 1–2 7 2 (2 7 1½) 11.65 at 49
2 7 1, 2 7 1½, 2 7 2, 2 7 1, 2 6 3



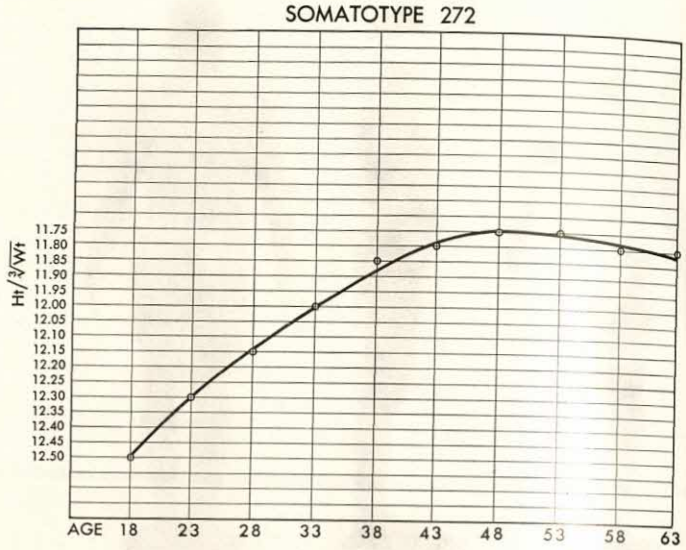
No. 372 *2 7 1* (*5*) 2 7 1–3 7 1 (2½ 7 1) 12.22 at 18
2½ 6 1½, 2½ 7 1½, 2½ 7 1, 2 7 1, 2½ 7 1

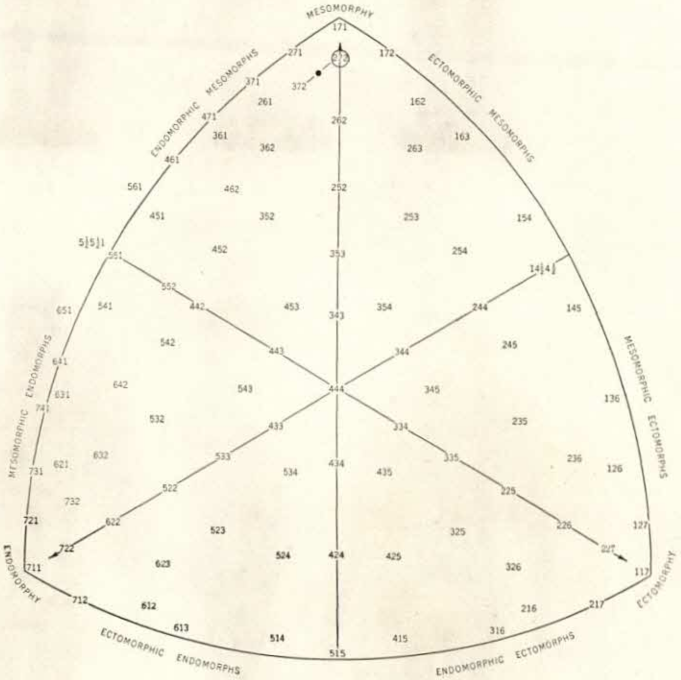
271



No. 373 *2 7 1* (*6*) 2 7 1–3 7 1 (2½ 7 1) 11.76 at 29
2½ 6½ 1, 2½ 7 1, 2½ 7 1, 2½ 7 1, 2½ 7 1½

Somatotype 2 7 2 *(Balanced polar mesomorphy, 11-level.) Saber-tooth tigers. The saber-tooth tigers, who flourished during the Pleistocene, appear to have been less massive, and taller than the modern tiger. Their main meat course was very likely the giant ground sloth, while our ancestors were only dessert. Nos. 377–380.*



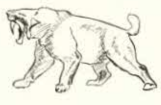


Weight for Age and Height

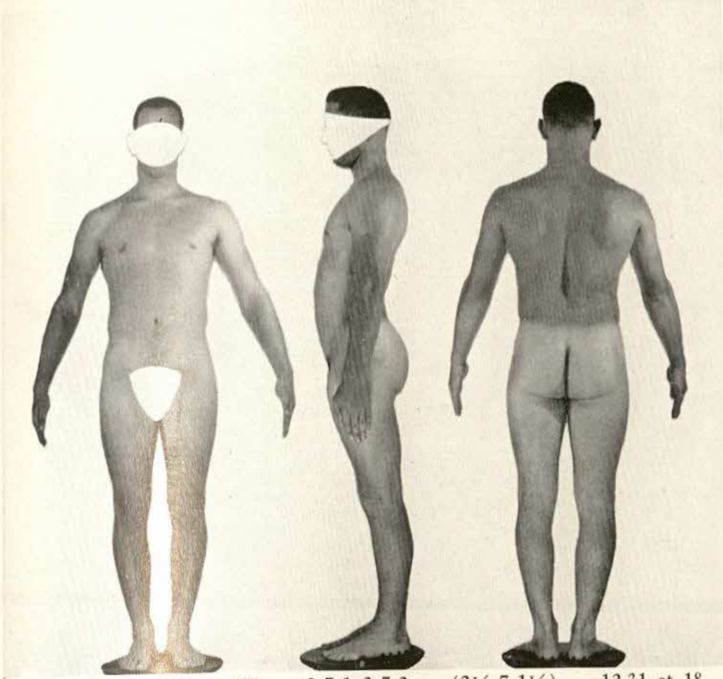
Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	215	224	236	245	253	255	260	259	258	256
74	207	216	226	235	243	246	250	249	248	246
73	198	208	218	226	233	236	240	239	238	236
72	190	199	208	217	223	226	230	228	227	226
71	182	191	200	208	214	217	221	219	219	217
70	175	183	192	200	206	208	212	211	210	208
69	168	176	184	192	197	200	203	202	202	200
68	161	168	176	183	189	191	194	193	193	191
67	153	161	168	175	180	183	186	185	184	183
66	147	154	161	167	172	174	177	177	176	174
65	140	147	154	160	164	167	169	168	168	167
64	133	140	146	153	157	159	162	161	160	159
63	127	134	140	145	149	152	154	154	153	152
62	121	127	133	138	142	145	147	147	146	145
61	116	121	127	132	135	138	140	140	139	138

Rarity 4. Incidence 3 per thousand. This somatotype and the 3 7 2 include most of the stalwart and mighty athletes who become famous at games requiring bodily contact with opponents. Possibly the 2 7 2 would include Lou Gehrig, Honus Wagner, Jack Dempsey and Gene Tunney, Red Grange and Jim Thorpe. Any of these men might reach 3 in endomorphy, but they are certainly 7's in mesomorphy. The shorter, sturdier, Rock-of-Gibraltar athletes who play in the line in football, and in baseball uniforms look like fireplugs, are extreme ectopenes. They lack the reach, the long range striking power, and the agility for championship fighting and fast running. But the 2 7 2 often possesses all these qualities and in addition that of being eligible to model for the Greek gods.

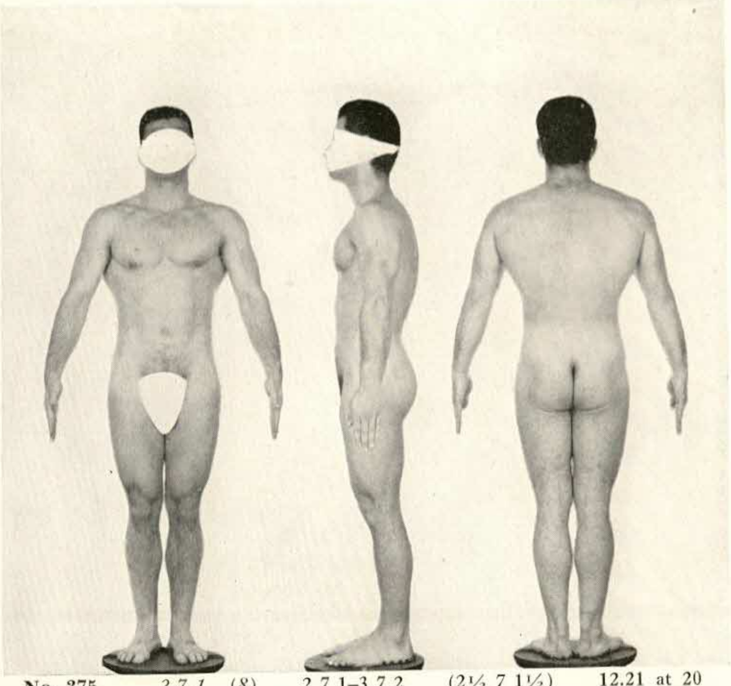
The nutrition curve appears to be almost identical with that of the 2 7 1, although not quite so steep. The latter tends to reach his peak weight in the early forties, the 2 7 2 in the late forties. Both jettison a little in the sixth decade, or at any rate the ones who survive do, and it is certain that at least a few representatives of both of these two dynasties of mesomorphic royalty do survive beyond the seventh decade.



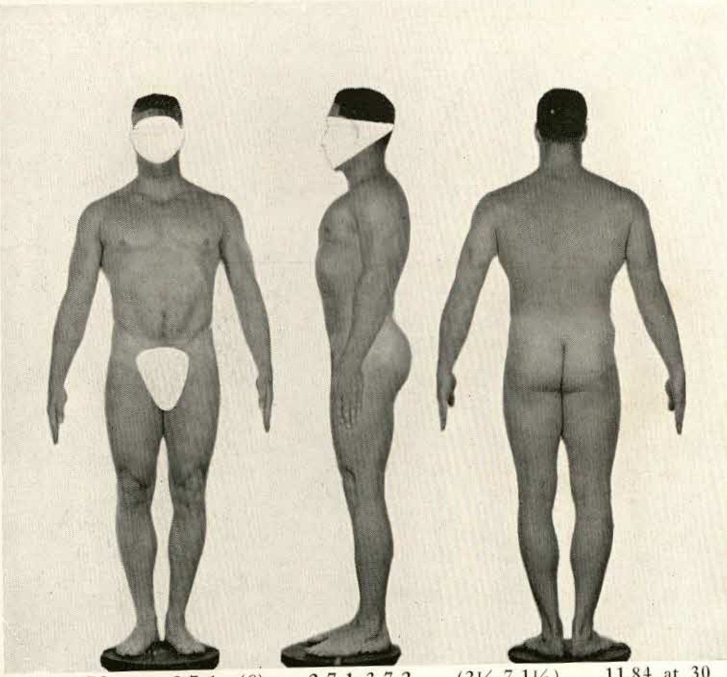
271



No. 374 *2 7 1* (*7*) 2 7 1–3 7 2 (2½ 7 1½) 12.31 at 18
2 6½ 1½, 2½ 7 1½, 2½ 7 1, 2½ 7 1½, 2½ 6½ 2

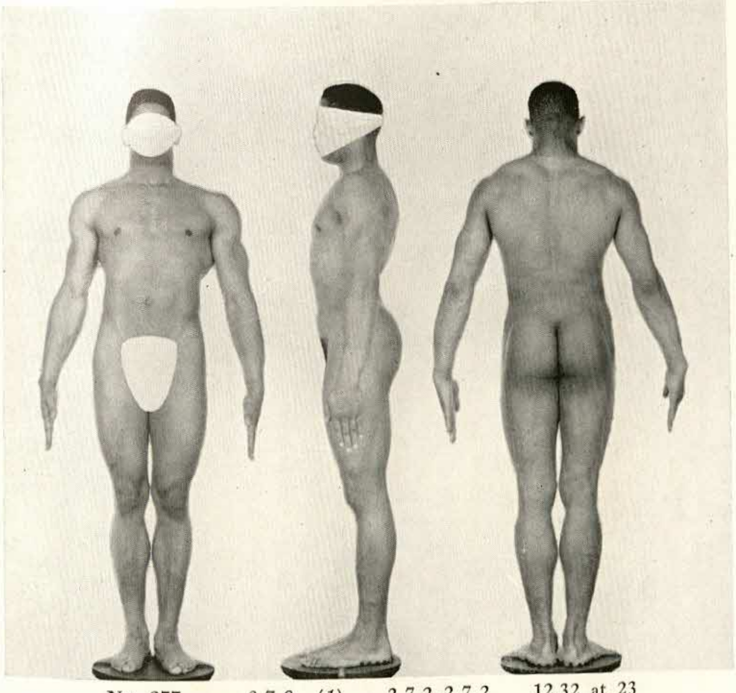


No. 375 *2 7 1* (*8*) 2 7 1–3 7 2 (2½ 7 1½) 12.21 at 20
2½ 7 1½, 2½ 7 1½, 2 7 1, 2½ 7 1½, 3 6½ 1½

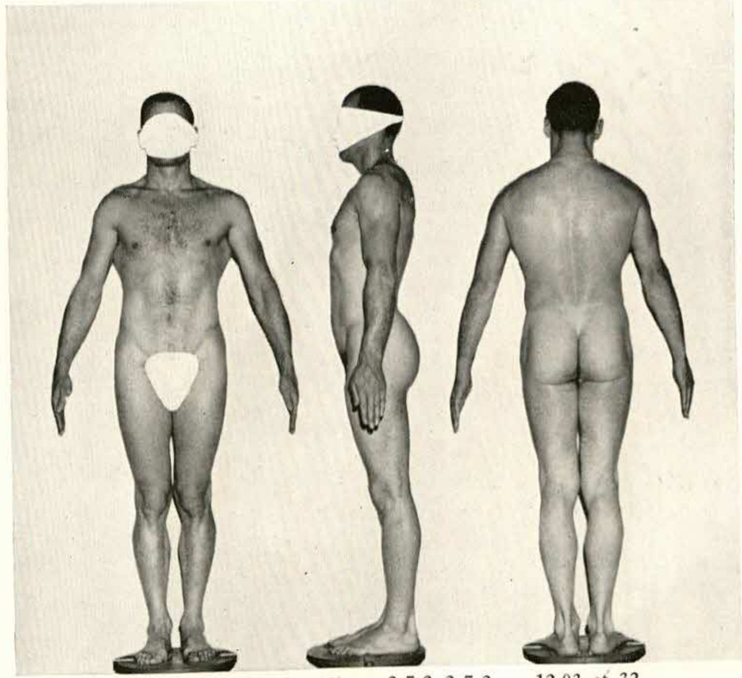


No. 376 *2 7 1* (*9*) 2 7 1–3 7 2 (2½ 7 1½) 11.84 at 30
2 7 1½, 2½ 7 1, 2½ 6½ 1½, 2½ 7 1½, 2½ 6½ 2

272



No. 377 *2 7 2* (*1*) 2 7 2–2 7 2 12.32 at 23
2 7 2, 2 7 1½, 2 7 2, 2 6½ 2, 2½ 7 2



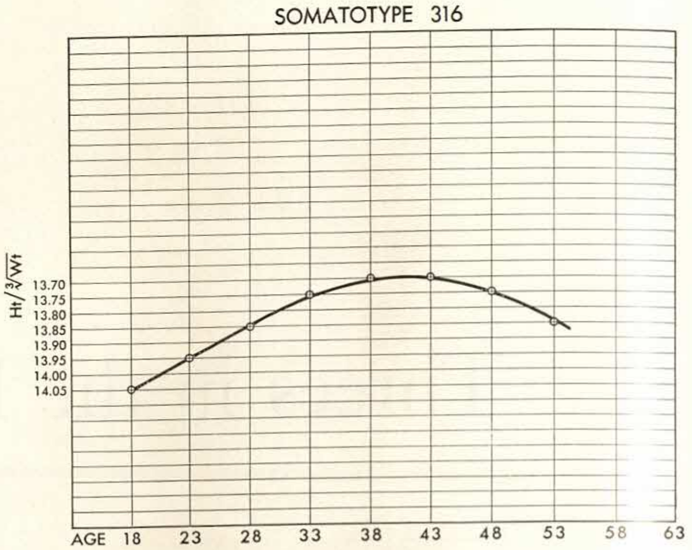
No. 378 *2 7 2* (*2*) 2 7 2–2 7 2 12.03 at 32
2 7 2, 2 7 2, 2 6½ 2, 2 6½ 2, 2 7 2

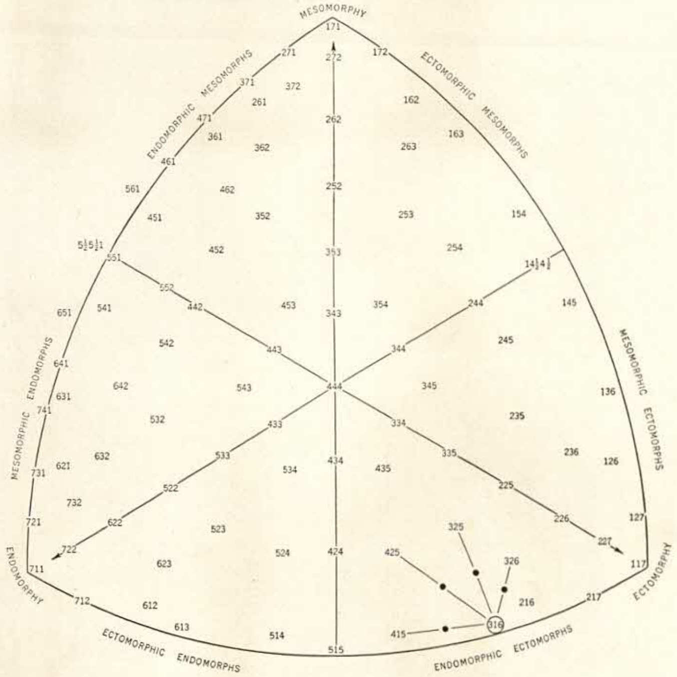
8

Threes in the First Component

15. SANDPIPERS

Somatotype 3 1 6 *(Endomorphic extreme ectomorphy at extreme mesopenia, 10-level.) Stilts. Stilt sandpipers. Tremulous, long-legged and long-necked waders. Delicate shore birds, almost as defenseless as butterflies. But they can fly to South America, and they fatten up appreciably for the long migration. Nos. 381–389.*





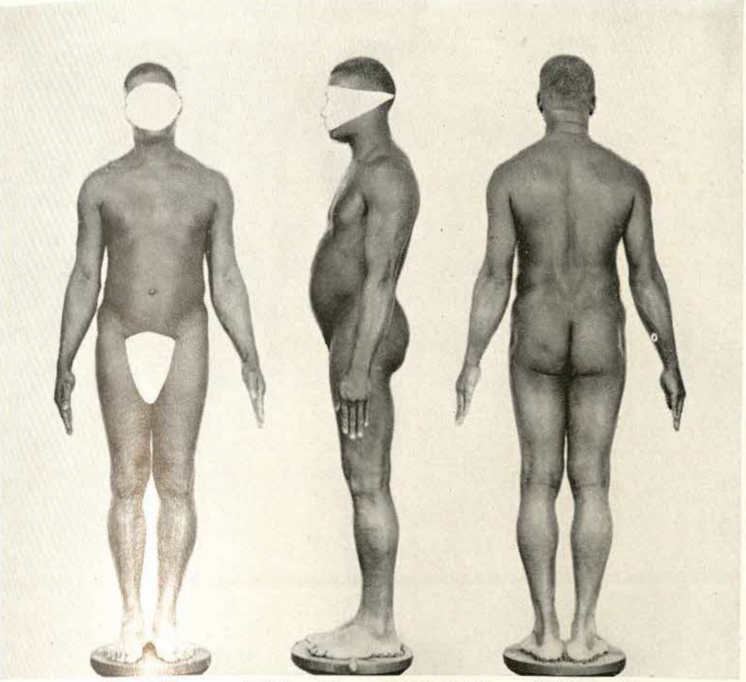
Weight for Age and Height

Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	153	156	158	161	165	164	161	158	. .	. .
74	147	150	152	155	158	157	155	152	. .	. .
73	141	144	146	149	152	151	149	146	. .	. .
72	135	138	141	143	146	145	143	141	. .	. .
71	129	132	133	137	139	138	137	133	. .	. .
70	124	126	129	131	133	133	131	129	. .	. .
69	119	121	123	126	128	127	126	123	. .	. .
68	114	116	118	120	122	122	120	118	. .	. .
67	109	111	113	115	117	116	115	113	. .	. .
66	104	106	108	110	112	111	110	108	. .	. .
65	99	101	103	105	107	106	105	103	. .	. .
64	95	96	98	100	102	101	100	98	. .	.
63	90	92	94	95	97	97	95	94	. .	. .
62	86	88	89	91	93	92	91	89	. .	. .
61	82	84	86	87	88	88	87	86	. .	. .

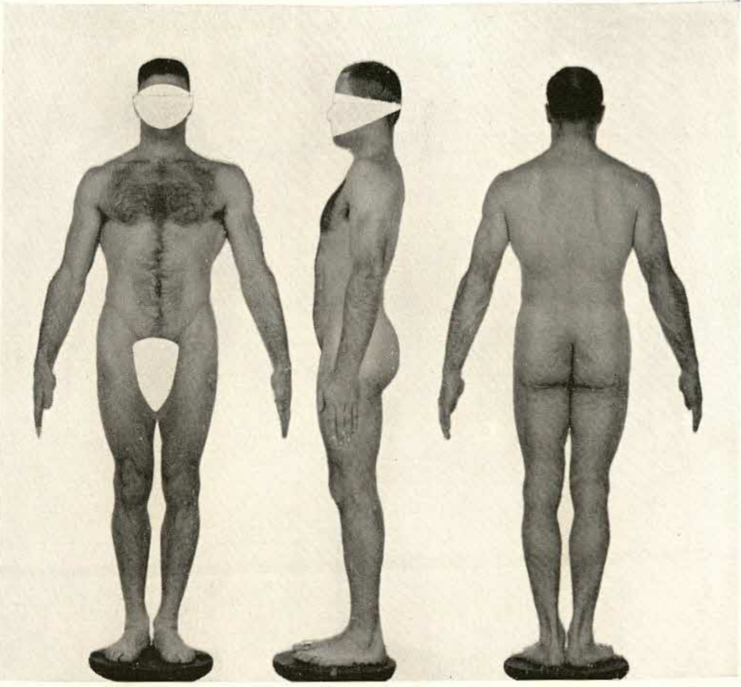
Rarity 5. Incidence 5 per ten thousand. A rare and presumably a short lived somatotype from down under, although not quite so rare, or apparently so short lived, as the nearby 2 1 6. With the extreme ectomorphy *and* the extreme mesopenia, the 3 in endomorphy is doubtless a heavy load to carry, and it may be biologically meaningful to regard the 3 1 6 as an "overloaded" somatotype. The bony skeleton and the musculature, at the level of 1 in mesomorphy, appear minimal. That is to say, they are just barely sufficient for the maintenance of human life, and it may be too that they are sufficient only under certain favorable conditions such as those currently prevailing in American society. Possibly a down under somatotype like a 3 1 6 cannot or does not exist as a male in parts of the world where more rigorous standards of survival are in force. On this point we need more data.

The female 3 1 6 appears to be better off than the male 3 1 6. *She* seems less physically inept, and she certainly is not very rare. She gives an impression of languor, and her posture is such as to haunt the insomnia of the physical educators, but she marries, produces children, and we have no indication as yet that she is particularly short lived. It may be that in this somatotype, so rare and so barely viable in the male, we encounter an effect of sex differences greater than those that appear when all the somatotypes are merely averaged in together. In the male this is a borderline somatotype, just viable. In the female it may in our culture be fairly well adapted, and is possibly Rarity 3.

272

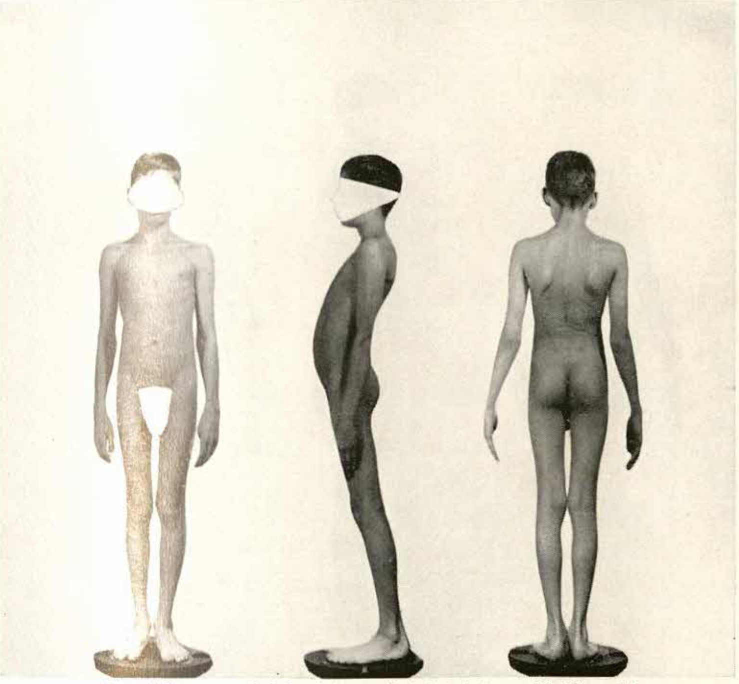


No. 379 *2 7 2* (*3*) 2 7 2–2 7 2 11.78 at 44
2 7 2, 2 7 2, 2 7 2, 2 7 1½, 2 7 2

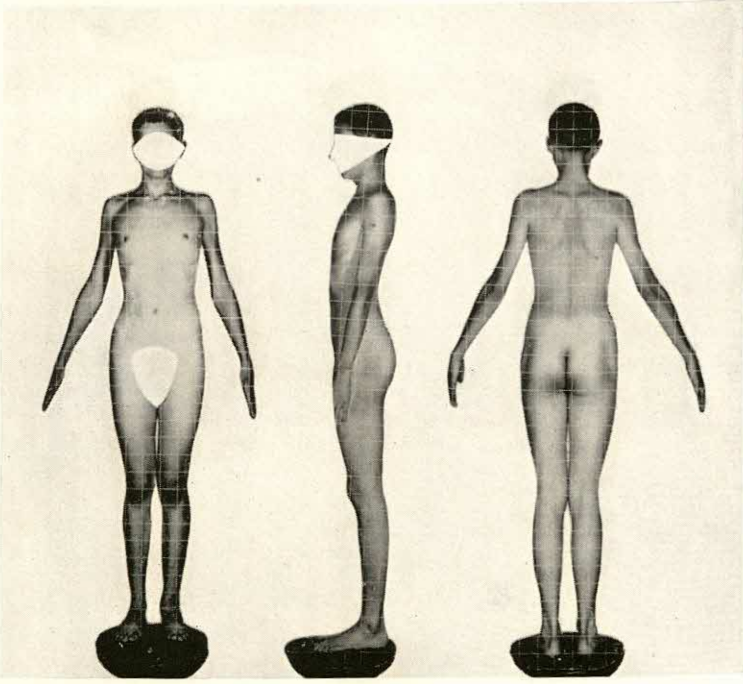


No. 380 *2 7 2* (*4*) 2 7 2–3 7 2 (2½ 7 2) 12.26 at 22
2½ 7 2, 2 7 2, 2 7 2, 2 6½ 2½, 2 6½ 2½

316

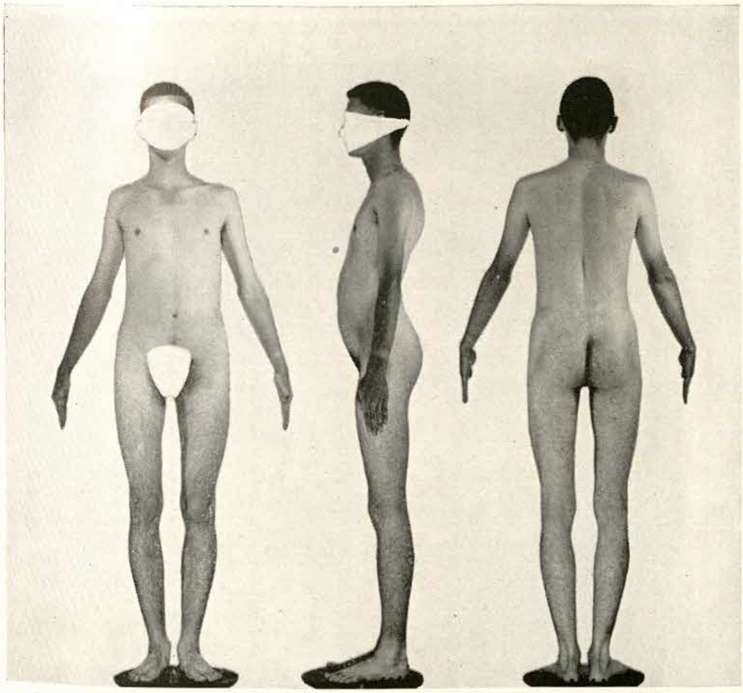


No. 381 *3 1 6* (*1*) 3 1 6–3 1 6 14.20 at 13
3 1 6, 3 1 6, 2 1 7, 3 1 6, 2 1 7

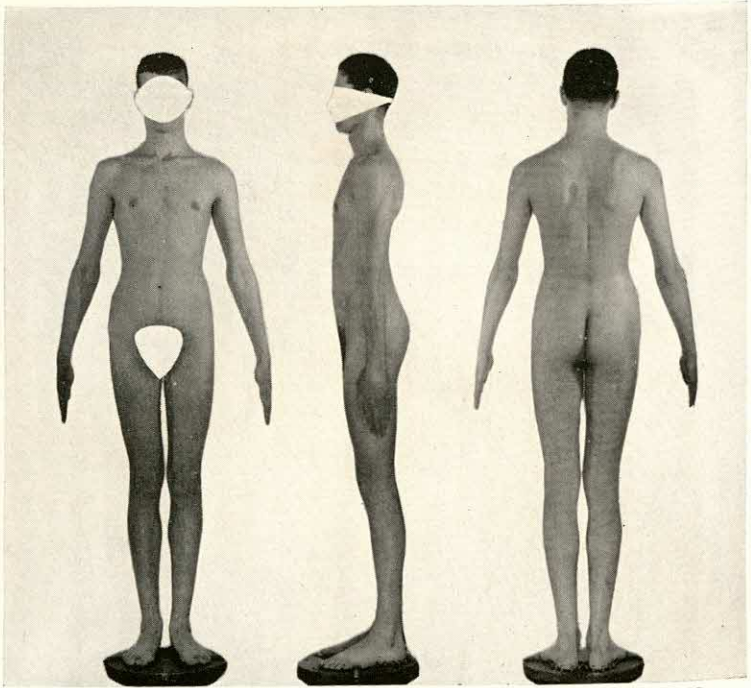


No. 382 *3 1 6* (*2*) 3 1 6–3 1 6 14.06 at 18
2 1 7, 3 1 6, 2 1 6½, 3 1 6, 3 2 5

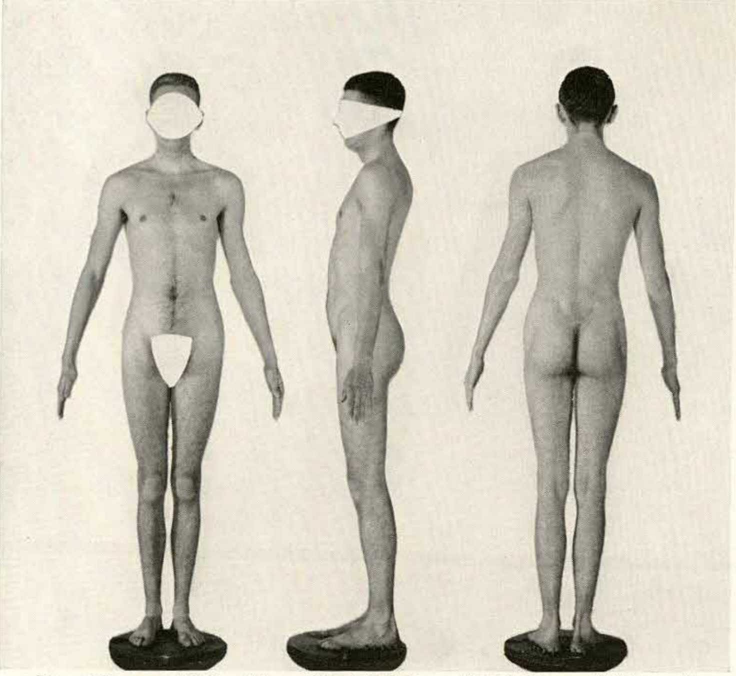
316



No. 383 *3 1 6* (*3*) 3 1 6–3 2 5 (3 1½ 5½) 13.88 at 18
2½ 1½ 5½, 3 1½ 5½, 2½ 1½ 5½, 3 2 5, 3 2 5

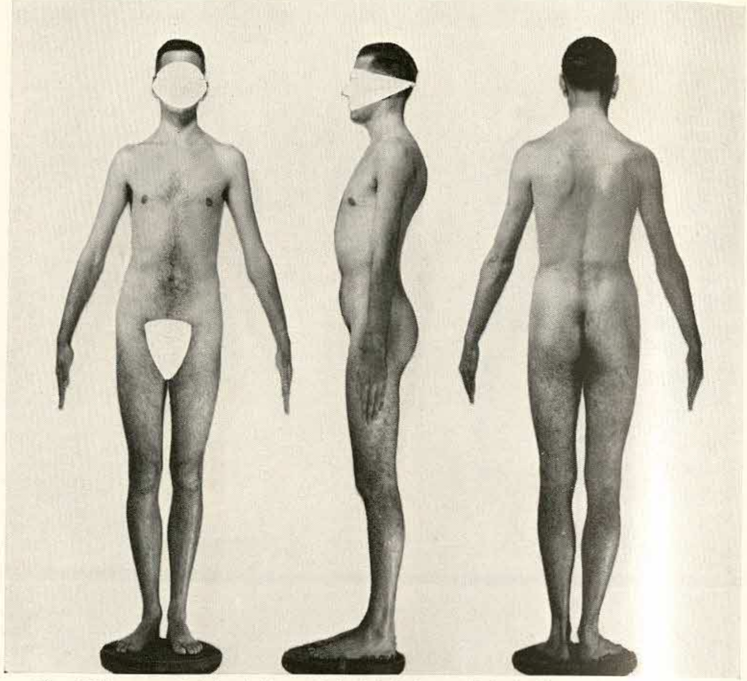


No. 384 *3 1 6* (*4*) 3 1 6–3 2 6 (3 1½ 6) 13.96 at 18
2½ 2 5½, 2½ 2 6, 3 1½ 6, 3 1½ 6, 3 1½ 6

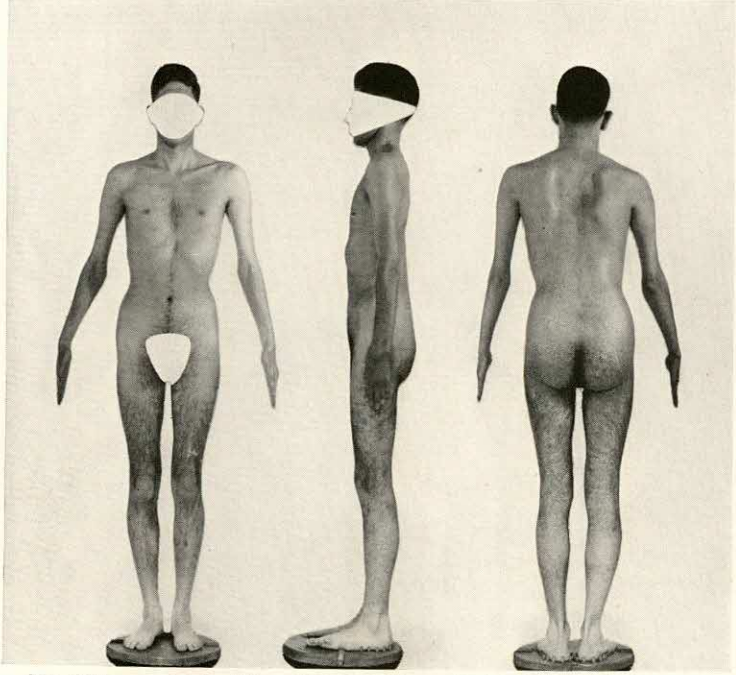


No. 385 *3 1 6* *(5)* 3 1 6–3 2 6 (3 1½ 6) 13.91 at 20
3 1½ 5½, 3 2 6, 2½ 2 6, 3 1½ 5½, 3 1½ 6

316

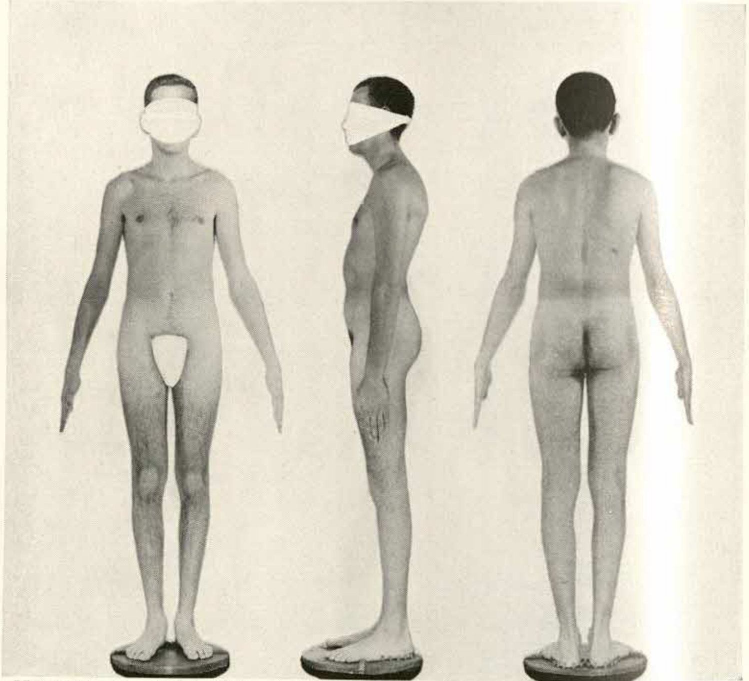


No. 386 *3 1 6* *(6)* 3 1 6–3 2 6 (3 1½ 6) 13.84 at 24
2½ 2 5½, 3 1½ 6, 3 1½ 6, 3 1½ 6, 2½ 2 5½

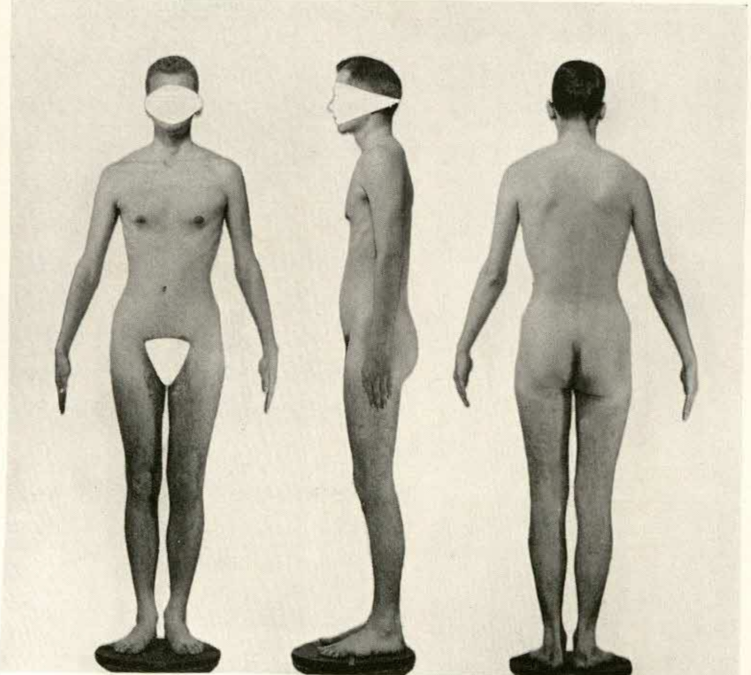


No. 387 *3 1 6* *(7)* 3 1 6–4 1 5 (3½ 1 5½) 13.92 at 18
3½ 2 4½, 3½ 1 5½, 3 1 6, 3½ 1 5½, 3½ 1 5½

316



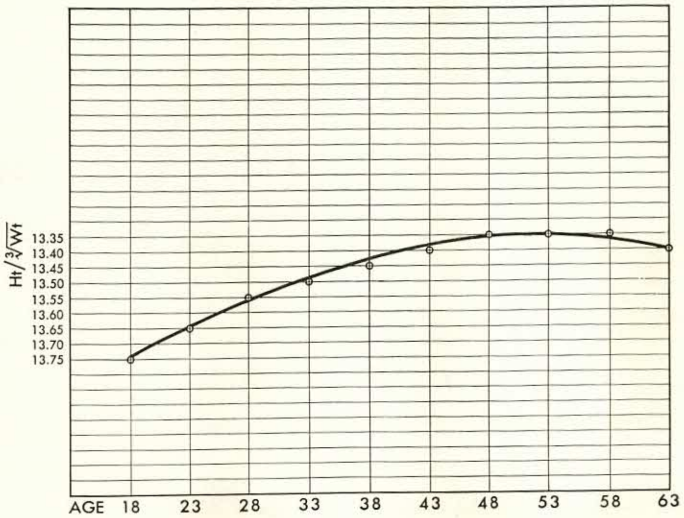
No. 388 *3 1 6* *(8)* 3 1 6–4 2 5 (3½ 1½ 5½) 13.77 at 20
3½ 2 5, 3½ 1½ 5½, 3½ 2 5½, 3½ 1½ 5, 3½ 1½ 6

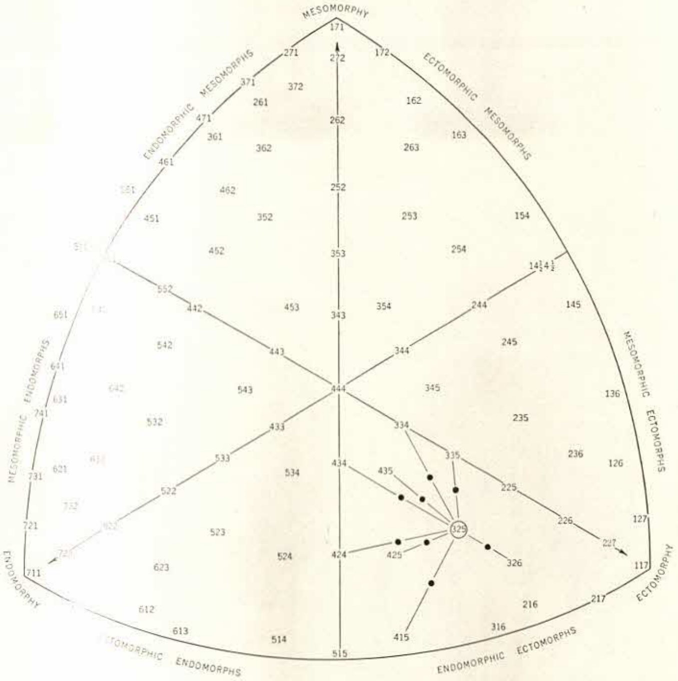


No. 389 *3 1 6* *(9)* 3 1 6–4 2 5 (3½ 1½ 5½) 13.61 at 28
3½ 2 5, 3½ 1½ 5½, 3½ 1½ 5½, 4 1½ 5½, 4 2 5

16. RAILBIRDS

Somatotype 3 2 5 *(Endomorphic ectomorphy, 10-level.) The little railbirds. Sora rails. Yellow rails. Virginia rails. Slender, long-legged marsh birds, so light in the body that they can dodge through thick cattails, and they run about on lily pads. Yet they grow passing fat before the long migration in the fall. At night they have big voices. Nos. 390–410.*





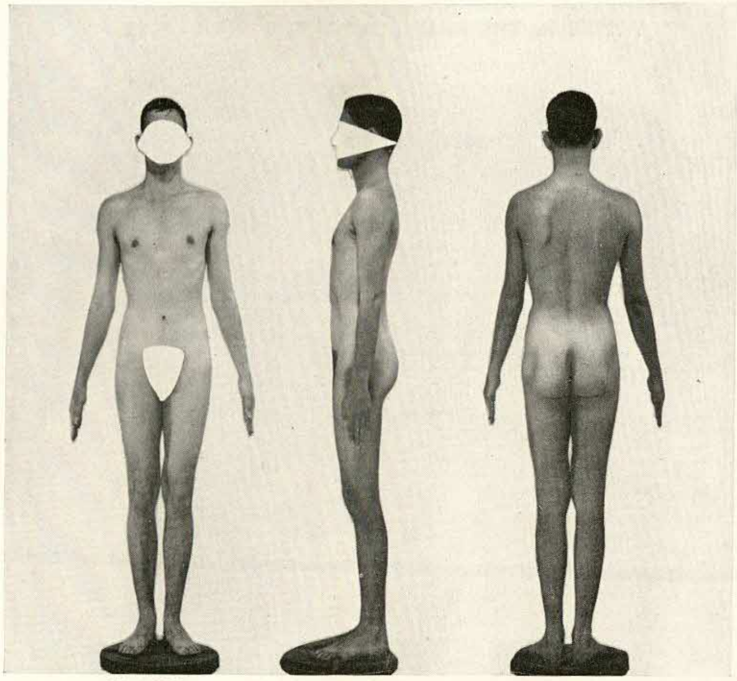
Weight for Age and Height

Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	161	165	169	172	174	175	178	177	177	174
74	155	159	162	165	167	168	170	170	169	168
73	149	153	156	159	160	162	164	164	163	161
72	142	146	149	152	153	155	157	156	156	154
71	137	140	143	146	147	149	151	150	150	148
70	131	134	137	140	141	143	145	144	143	142
69	126	129	131	134	135	137	139	138	137	136
68	120	123	126	128	129	131	133	132	132	130
67	115	118	120	122	123	125	127	126	126	124
66	110	112	115	117	118	119	121	120	120	119
65	105	108	109	111	112	114	116	115	114	113
64	100	103	104	106	107	109	110	110	109	108
63	95	98	100	101	102	104	105	105	104	103
62	91	93	95	97	98	99	100	100	99	98
61	87	89	90	92	93	94	96	95	95	94

Rarity 3. Incidence 10 per thousand. Almost rarity 2, and seen about half as often as the 2 3 5. In the female this ratio is more than reversed. The 3 2 5 is many times more common among American women than is the 2 3 5. This is indeed a "female" somatotype in the sense that all its characteristics are better adapted to the feminine than to the masculine patterns of our culture—or perhaps of any culture.

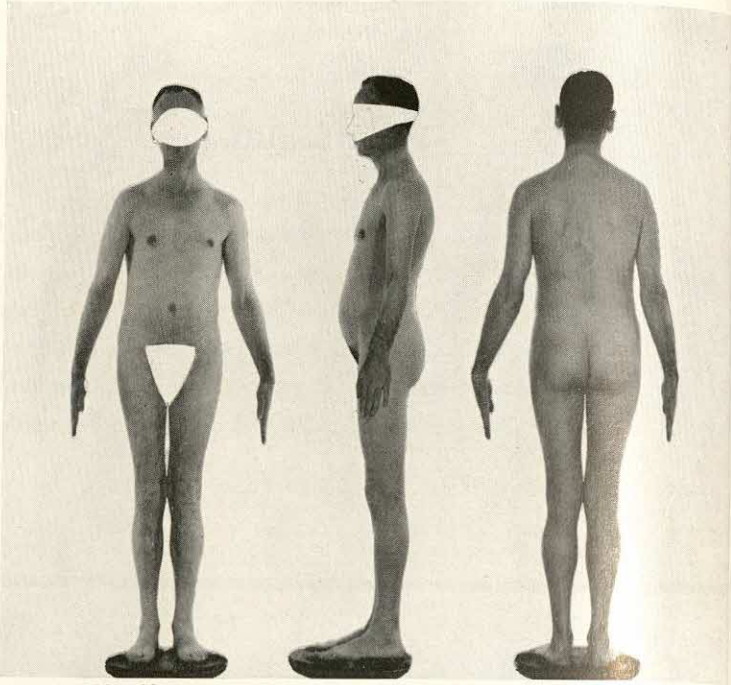
The male 3 2 5 is a kind of weakling, and being an honest, unquestioned weakling, he escapes the danger of being drawn into athletic aspirations and into other masculine competitions which often frustrate and undo youngsters who possess moderate strength in mesomorphy. Examine a hundred high school or community ball teams and you may never find a 3 2 5, although you may find a score of 2 3 5's who themselves have no more business trying to be ballplayers than so many young roosters would have in the duck pond. Thus the 3 2 5 escapes one of the commonest pitfalls of our culture, and on the whole he makes the most of the advantage which he so derives.

That is, he tends to stick to his own proper knitting, and like his little cousin the 2 2 5, seems particularly inclined to develop his mental gifts if he has any. Probably the 3 2 5 achieves high scholastic honors more often than the 2 3 5. Having no equipment for meeting trouble, he meets less trouble, and is more often "good." But this somatotype is deep in the hebephrenic belt and, again like the 2 2 5, is disproportionately common in the mental hospitals.

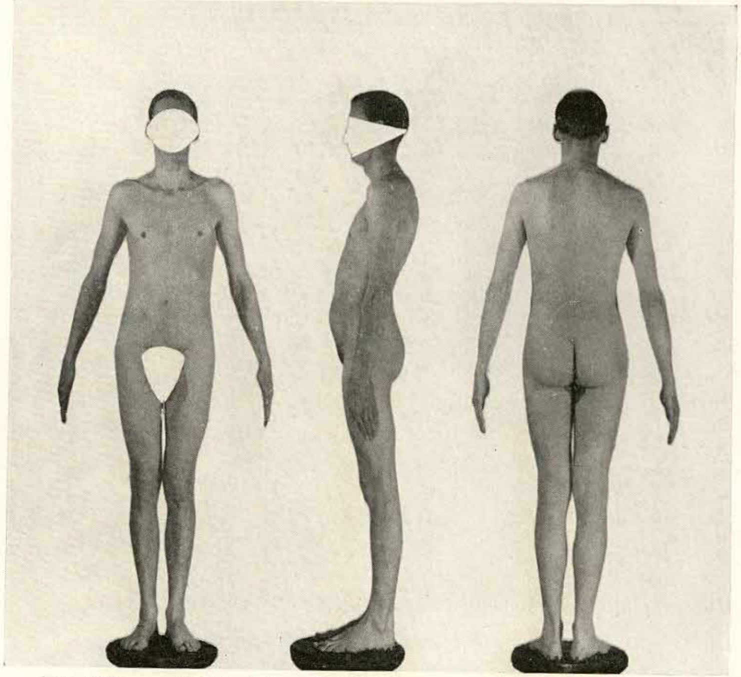


No. 390 *3 2 5* (*1*) 3 2 5–3 2 5 13.75 at 17
3 2 5, 3 2 5½, 3 1½ 5½, 3 2 5, 3 1½ 5½

325

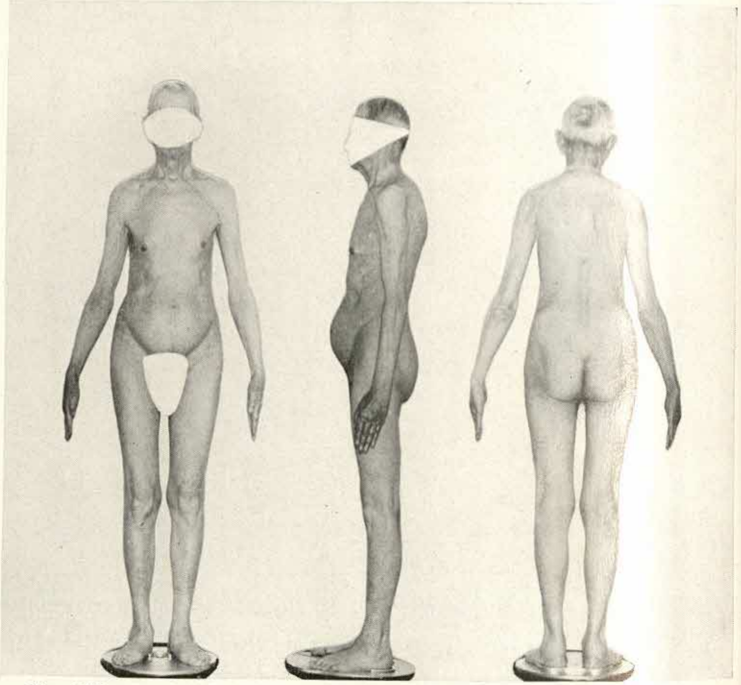


No. 391 *3 2 5* (*2*) 3 2 5–3 2 5 13.35 at 54
3 2 5, 3 2 5, 3½ 2 4½, 3½ 2 4½, 3 2 5

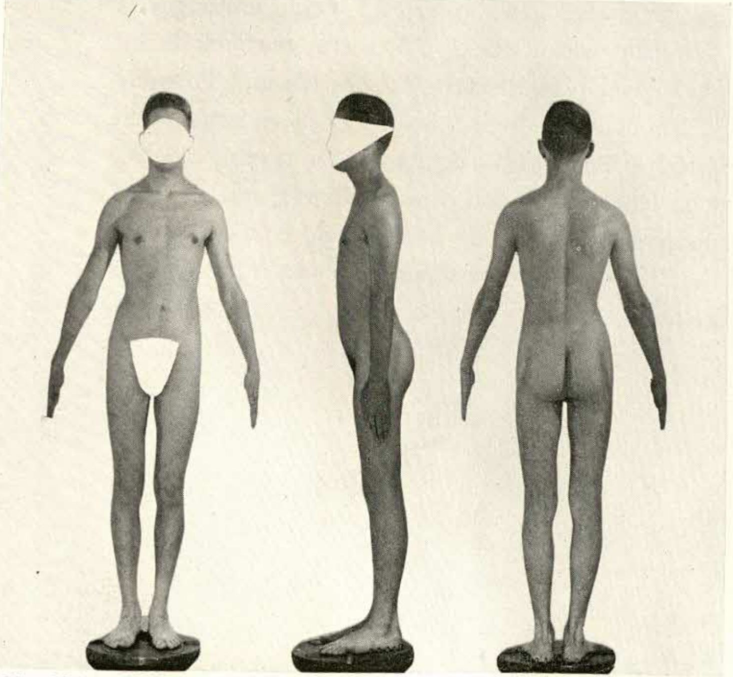


No. 392 *3 2 5* (*3*) 3 2 5–3 2 6 (3 2 5½) 13.77 at 24
3 2 5½, 3 1½ 6, 2½ 2 6, 3 2 5, 3 1½ 5½

325

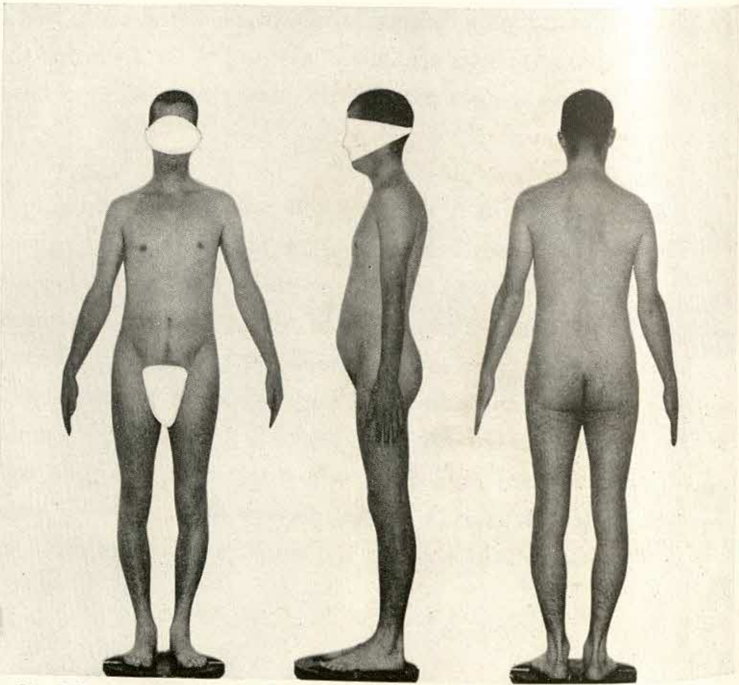


No. 393 *3 2 5* (*4*) 3 2 5–3 2 6 (3 2 5½) 13.66 at 79
3 2 5½, 3 2 6, 3 2 6, 3 2 5½, 3 2½ 4½

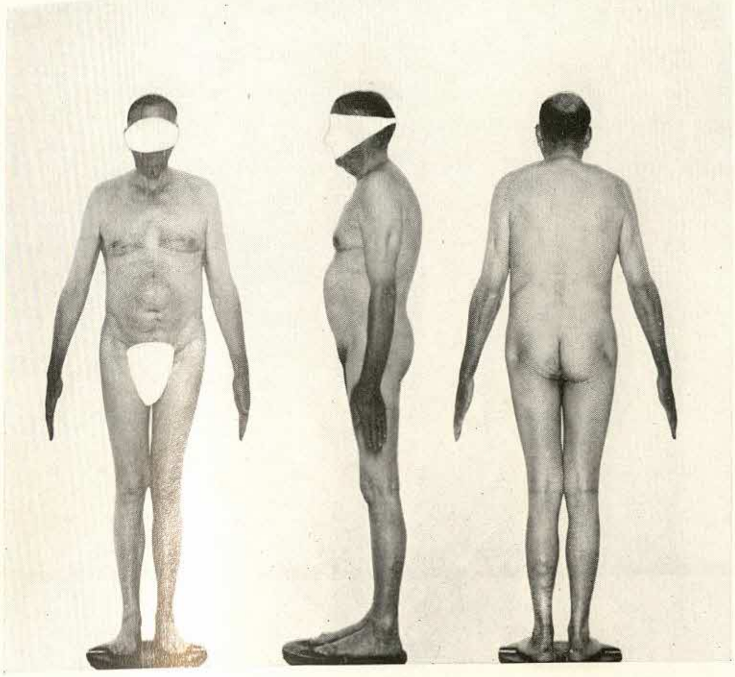


No. 394 *3 2 5* (*5*) 3 2 5–3 3 4 (3 2½ 4½) 13.65 at 18
3 2½ 4½, 3 2½ 4½, 2½ 2 5½, 3 2½ 4½, 2½ 3 4½

325

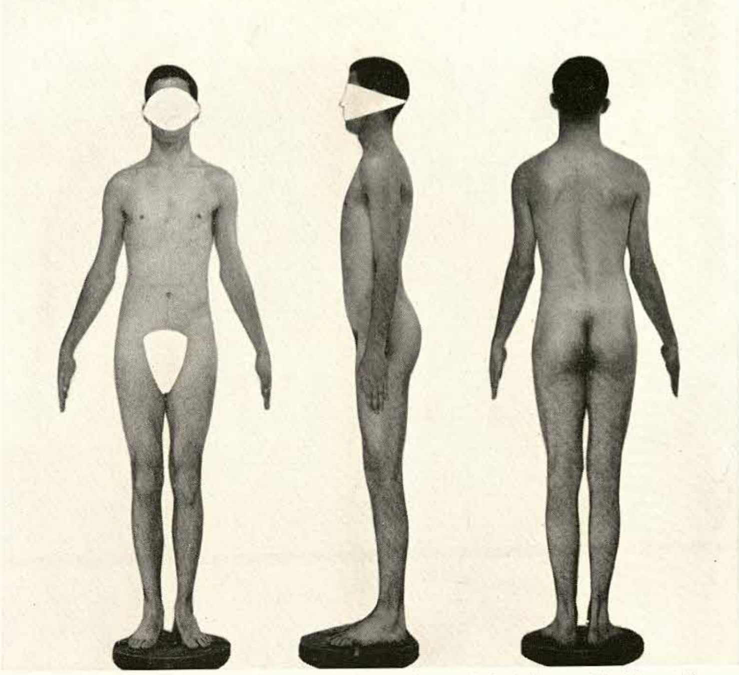


No. 395 *3 2 5* (*6*) 3 2 5–3 3 4 (3 2½ 4½) 13.41 at 28
3 3 4½, 3 2½ 4½, 3 2½ 4½, 3 2½ 4½, 3 2½ 4½

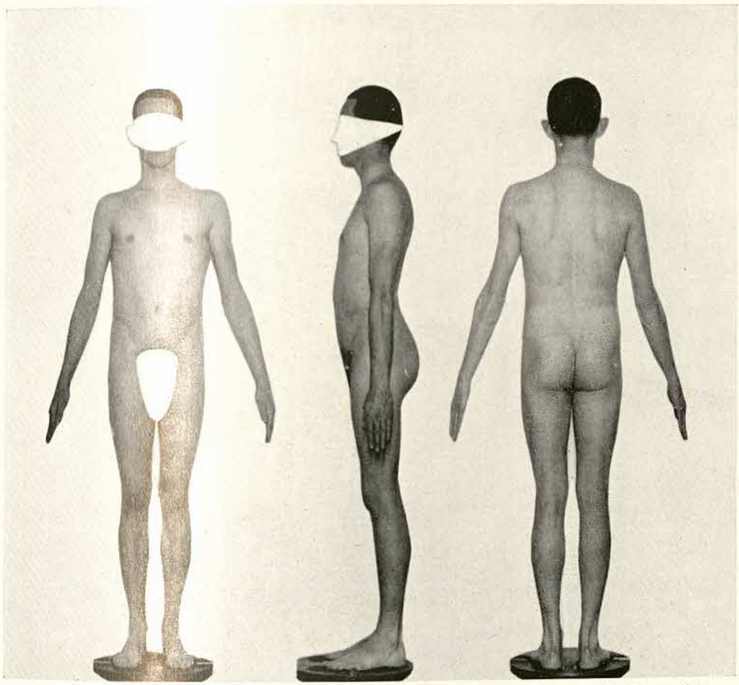


No. 396 *3 2 5* (*7*) 3 2 5–3 3 4 (3 2½ 4½) 13.17 at 65
3 2½ 4½, 3 3 4, 3 2½ 5, 3 2½ 4½, 3 2½ 5

325

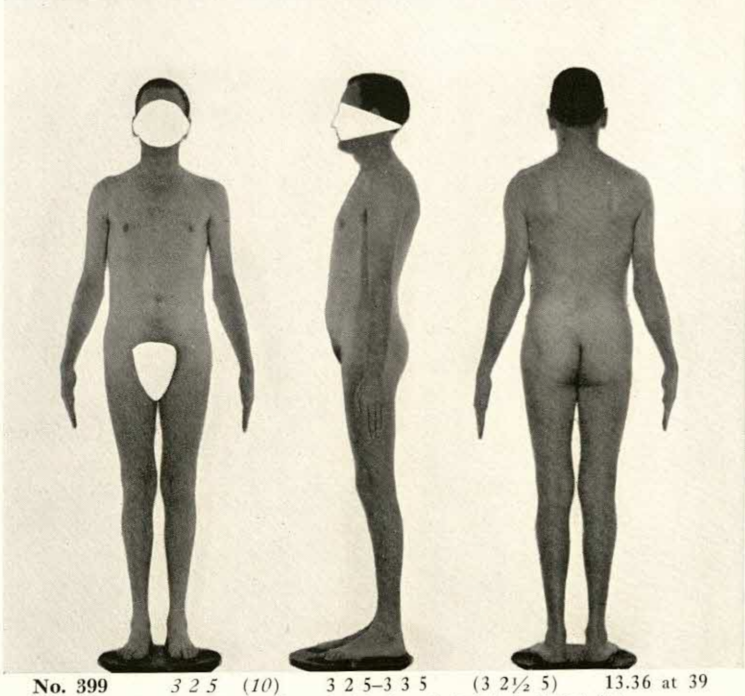


No. 397 *3 2 5* (*8*) 3 2 5–3 3 5 (3 2½ 5) 13.71 at 19
3 3½ 4½, 3 2½ 5, 3 1½ 5½, 2½ 2 5, 3 2½ 5½

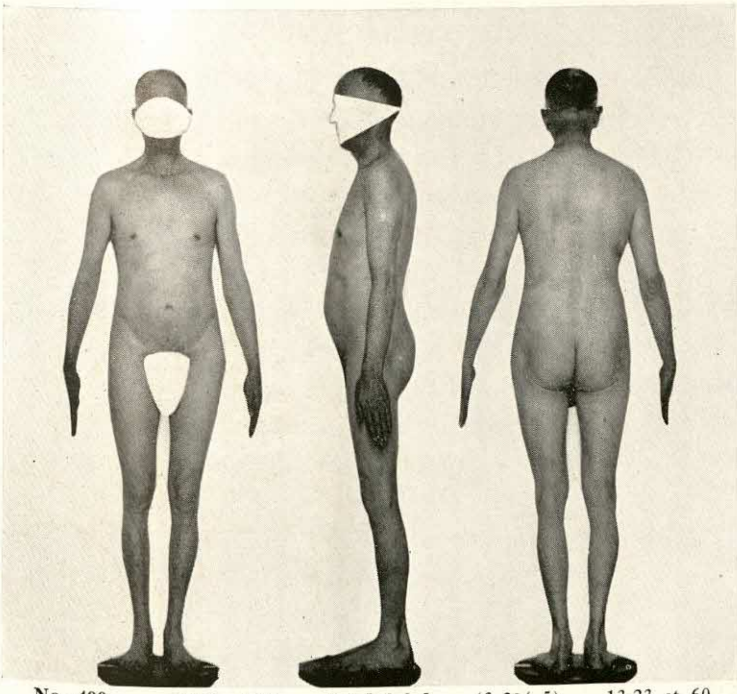


No. 398 *3 2 5* (*9*) 3 2 5–3 3 5 (3 2½ 5) 13.41 at 31
3 2½ 5, 3 2½ 5½, 3 2½ 5, 3 2½ 5, 3 2 5½

325

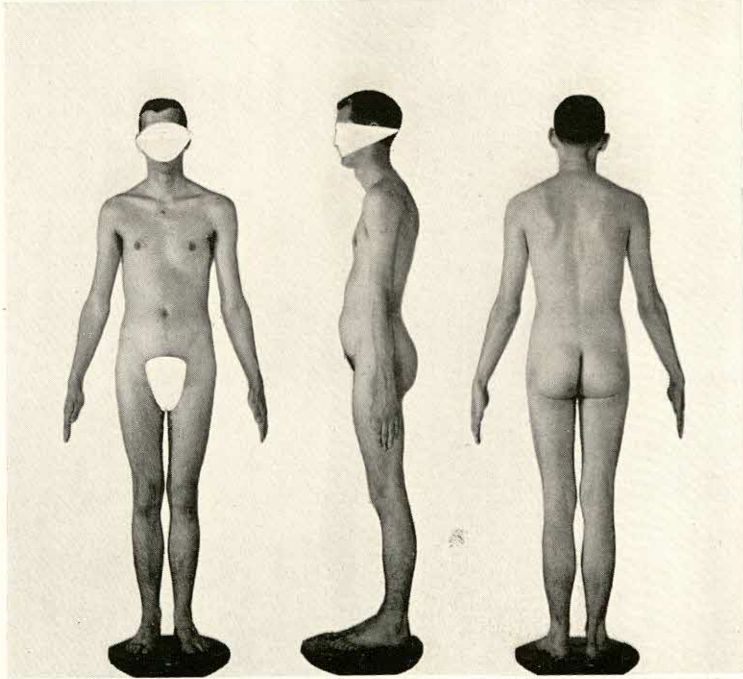


No. 399 *3 2 5* (*10*) 3 2 5–3 3 5 (3 2½ 5) 13.36 at 39
3 3 4½, 3 3 4½, 3 1½ 6, 3 2½ 5, 3 1½ 5½

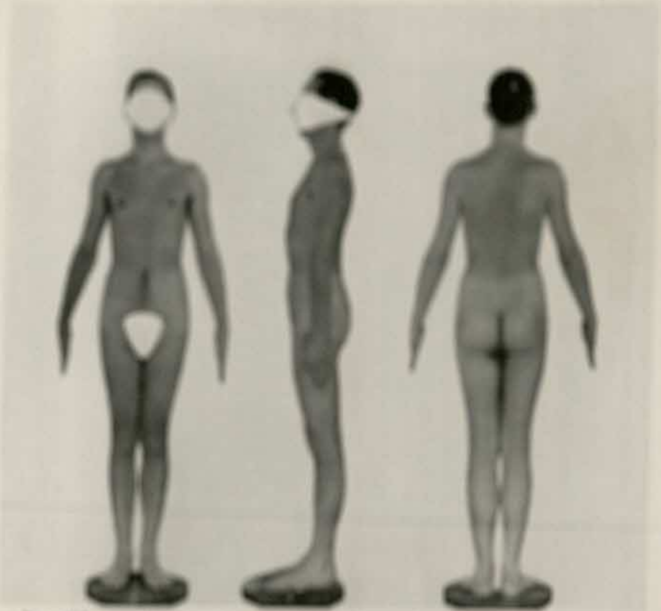


No. 400 *3 2 5* (*11*) 3 2 5–3 3 5 (3 2½ 5) 13.23 at 60
3 2½ 5, 3 2½ 5, 3 2½ 5, 3 2½ 5, 3 2 6

325

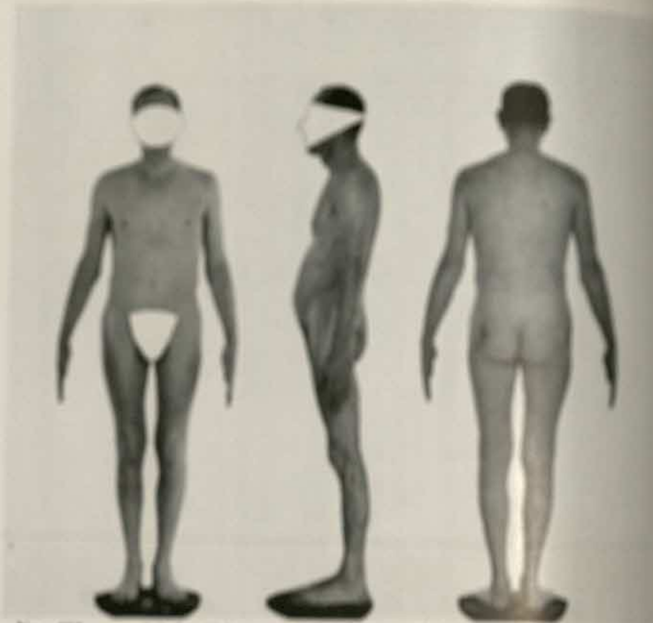


No. 401 *3 2 5* (*12*) 3 2 5–4 1 5 (3½ 1½ 5) 13.73 at 19
3 2 5, 3½ 1½ 5½, 3½ 1½ 5½, 3½ 1½ 5, 3 2 5

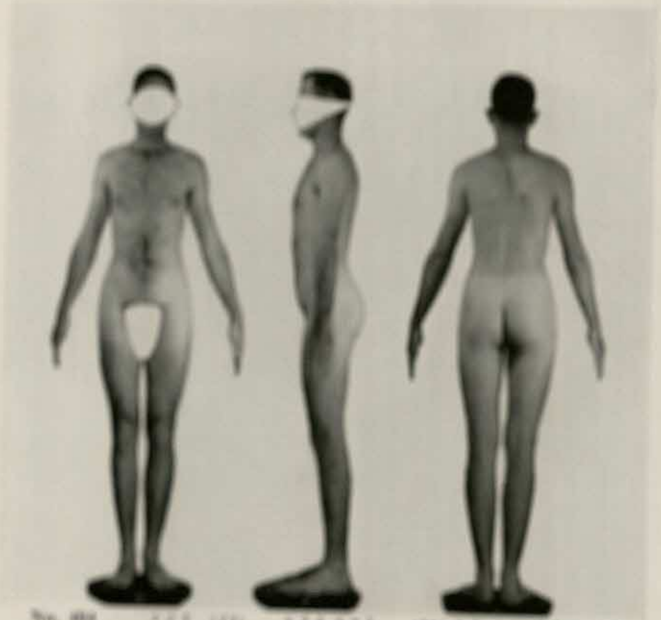


No. 482 3 2 5 (27) 3 2 5–4 2 4 (3½ 2 4½) 13.46 at 22
3½ 2 4½. 3½ 3½ 5. 3½ 2 5. 3½ 2 4½. 4 2 4½.

325

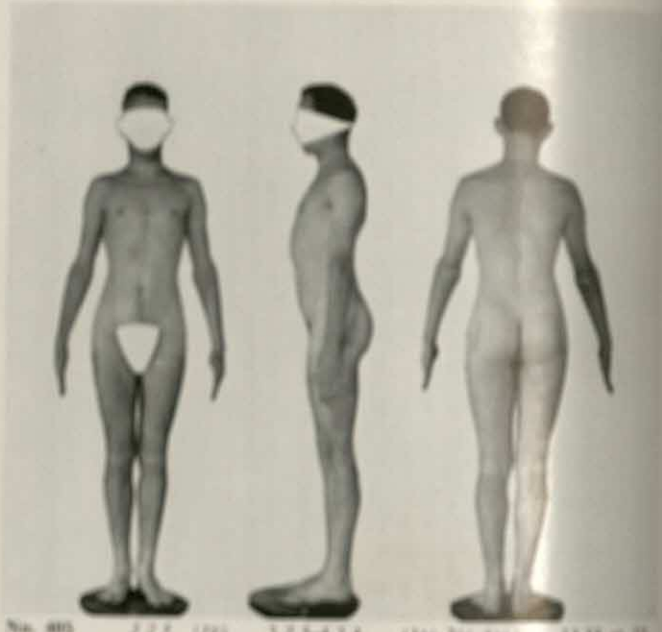


No. 483 3 2 5 (26) 3 2 5–4 2 4 (3½ 2 4½) 13.33 at 31
3½ 2 4½. 3½ 2½ 4½. 3½ 2 5. 3½ 2 4½. 3½ 2 4½.

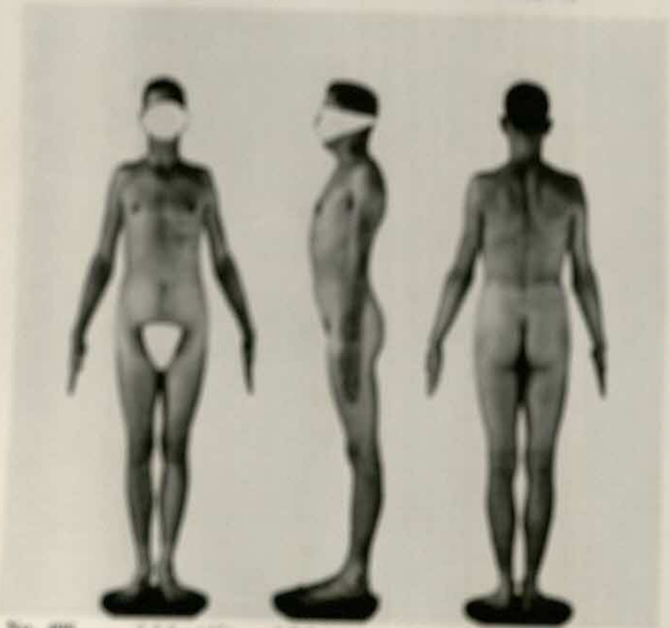


No. 484 3 2 5 (27) 3 2 5–4 2 5 (3½ 2 5) 13.56 at 24
3½ 2 5. 3½ 2 4½. 3½ 2½ 5. 4 2 5. 4 2½ 4½.

325

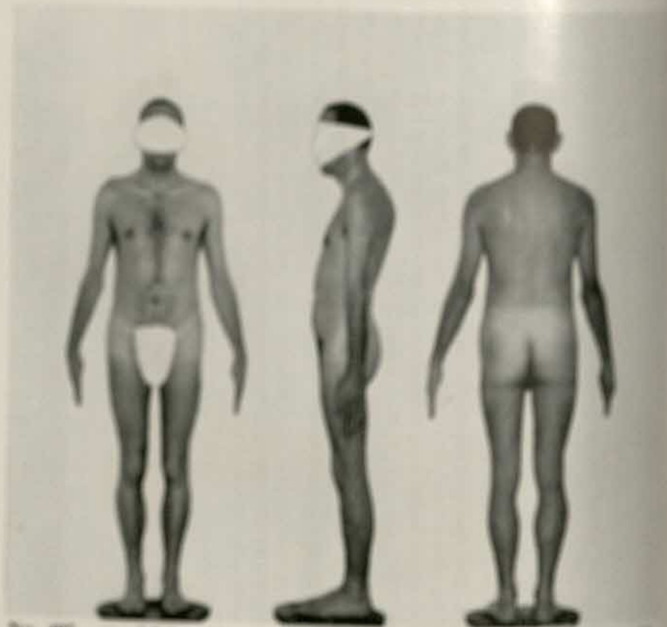


No. 485 3 2 5 (26) 3 2 5–4 3 4 (3½ 2½ 4½) 13.35 at 29
3½ 2½ 4½. 3½ 3 4. 3½ 2 4½. 3½ 2½ 4½. 4 3 4½.



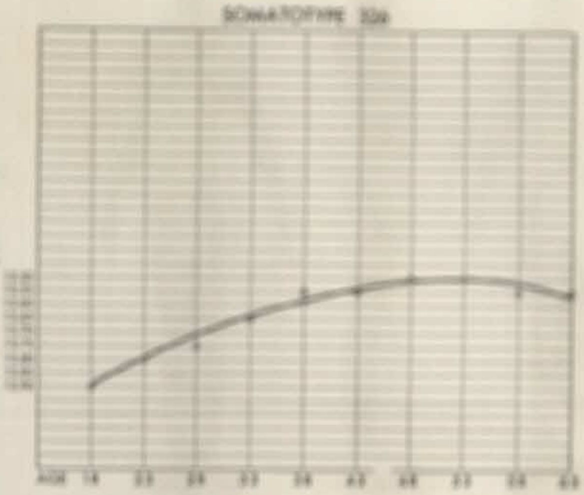
No. 486 3 2 5 (27) 3 2 5–4 3 4 (3½ 2½ 4½) 13.26 at 24
3½ 3 4. 3½ 2 4½. 3½ 2 4½. 3½ 2½ 4½. 3½ 2½ 4½.

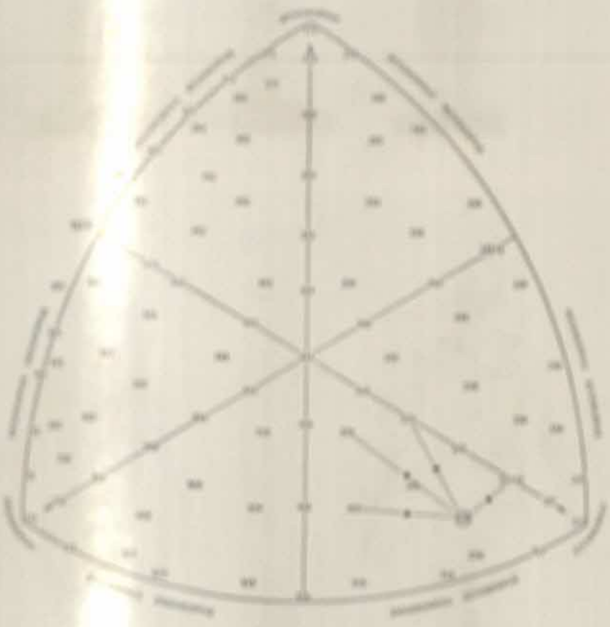
325



No. 487 3 2 5 (28) 3 2 5–4 3 4 (3½ 2½ 4½) 13.07 at 30
3½ 3 4. 3 2½ 4½. 3 2 5. 3½ 2½ 4½. 3½ 3 4.

Somatotype 3 2 6 *(Endomorphic extreme ectomorphy, 11 level.) The big railbirds. Clapper rails and King rails. Friendly but furtive waders who, like their smaller brothers, try to keep out of sight all day in the tall marsh grasses, and do their calling or singing at night. Slender creatures, "thin as a rail," but good to eat. Nos. 411–418.*



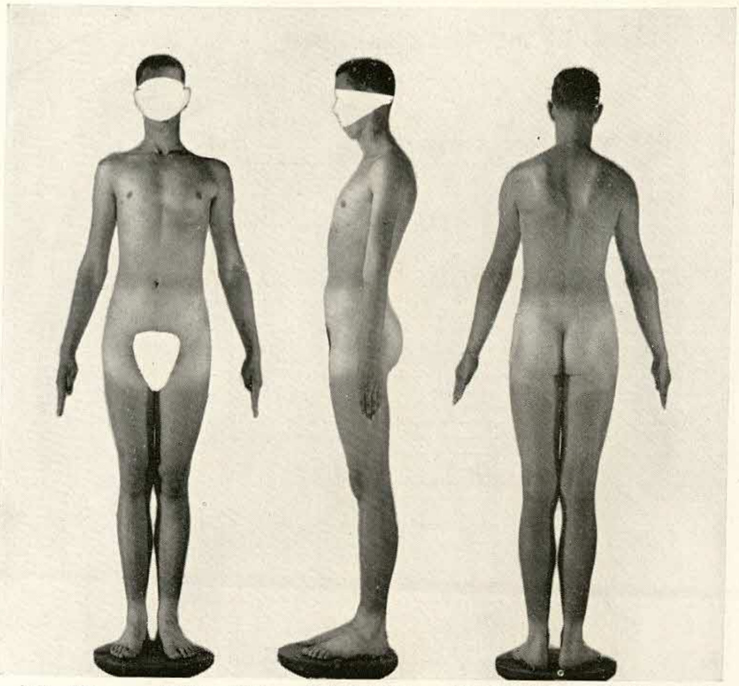


Weight for Age and Height

Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	156	159	161	165	169	170	172	172	170	169
74	150	153	156	159	162	163	165	165	163	162
73	143	146	149	152	156	157	159	159	157	157
72	137	141	143	146	149	150	152	152	150	149
71	132	135	137	140	143	144	146	146	144	144
70	127	130	131	134	137	138	140	140	138	137
69	123	124	128	129	131	132	134	134	132	131
68	116	119	121	123	126	126	128	128	126	126
67	111	114	115	118	120	121	122	122	121	120
66	106	109	110	112	115	115	117	117	115	115
65	101	104	105	108	109	110	111	111	110	109
64	97	99	100	103	104	105	106	106	105	104
63	92	94	96	98	100	100	101	101	100	100
62	88	90	91	93	95	96	97	97	96	95
61	84	86	87	89	90	91	92	92	91	90

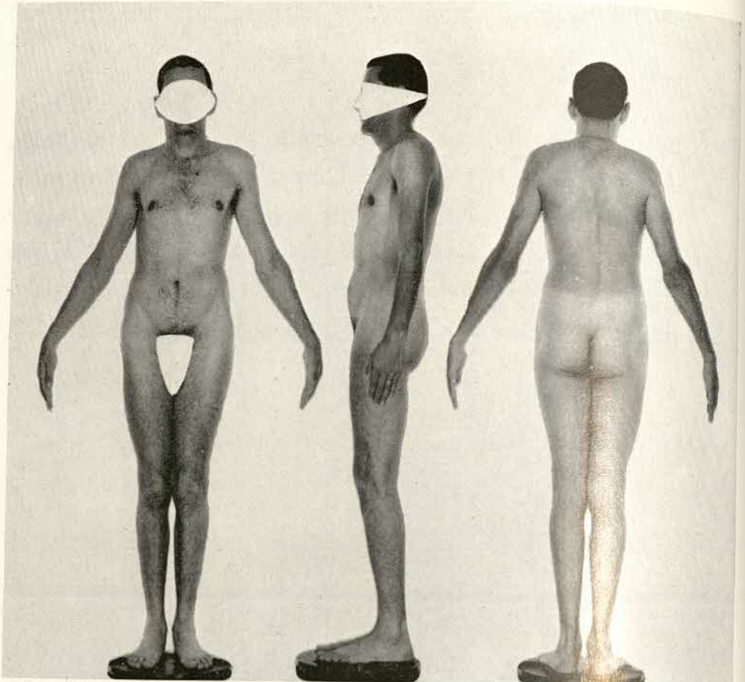
Rarity: Incidence 6 per thousand. The nutrition curves of the 3 2 6 and 3 2 5 appear to be almost identical. Both somatotypes are found in appreciable numbers at least as late as the middle of the seventh decade, but both of these ectomorphic weaklings seem to run into hard sledding by the time they reach maximal weight, along about the end of the fifth decade. The 3 2 6 in particular fails to hold his nutritional ground for long and in the late fifties we find him at a lighter level. If the 3 1 6 is an overloaded somatotype, the 3 2 6 is also overloaded, although in lesser degree.

These endomorphic ectomorphs are frail reeds. They bend with the wind. You cannot rest much weight against them. They seem to husband their energies, and are fairly described as "conservative." It might seem that therefore they should be long lived, since they do not burn themselves out with overactive living. But human longevity is not that simple. There is the factor of the energy of the original endowment as well as the factor of how the endowment is used. Perhaps if a 3 2 6 had the original cardiovascular equipment of an average 2 7 2, and used it as a 3 2 6 *does* use his circulatory resources, he might live for a dozen or more decades. And possibly something like that does occasionally happen. That is, it may be that the sturdiness and quality of the cardiovascular system constitute variables sufficiently independent of the rest of the somatotype that once in a while we get, as an extreme dysplasia, a first-rate circulatory mechanism in a somatotype that will husband it and can make the most of it in terms of longevity.

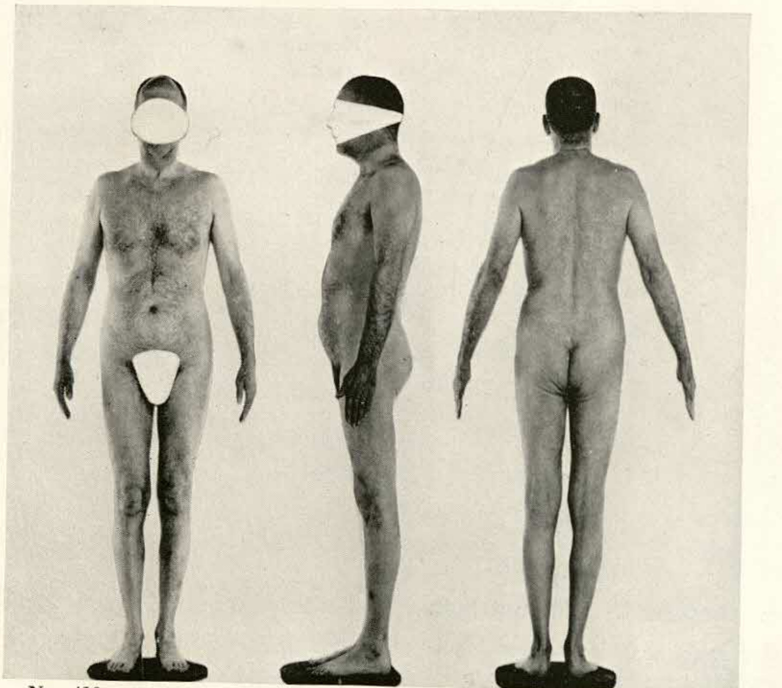


No. 408 *3 2 5* (*19*) 3 2 5–4 3 5 (3½ 2½ 5) 13.62 at 19
3 2 6, 3½ 2½ 5½, 3½ 2 5, 3½ 2½ 5, 4 2½ 4½

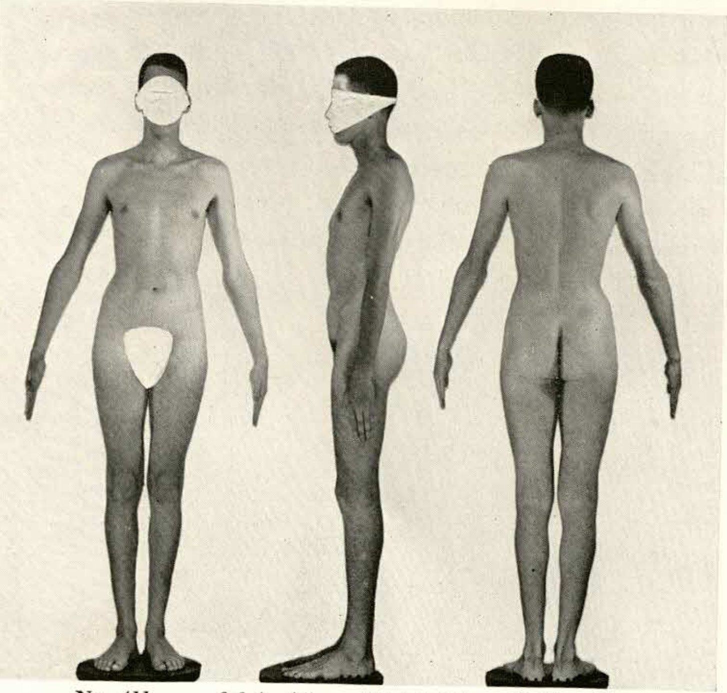
325



No. 409 *3 2 5* (*20*) 3 2 5–4 3 5 (3½ 2½ 5) 13.48 at 22
3½ 3 4½, 3½ 2½ 5, 3½ 2½ 5, 3½ 2½ 4½, 4 2½ 5

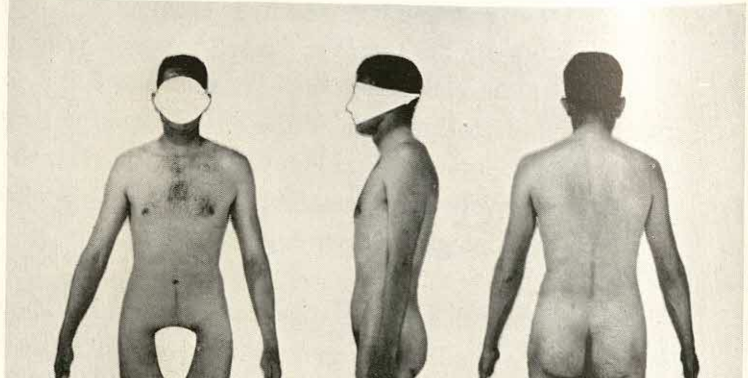


No. 410 *3 2 5* (*21*) 3 2 5–4 3 5 (3½ 2½ 5) 13.13 at 52
3½ 2½ 5, 3½ 2½ 4½, 3½ 2½ 5, 3 3 4½, 3½ 2 5½

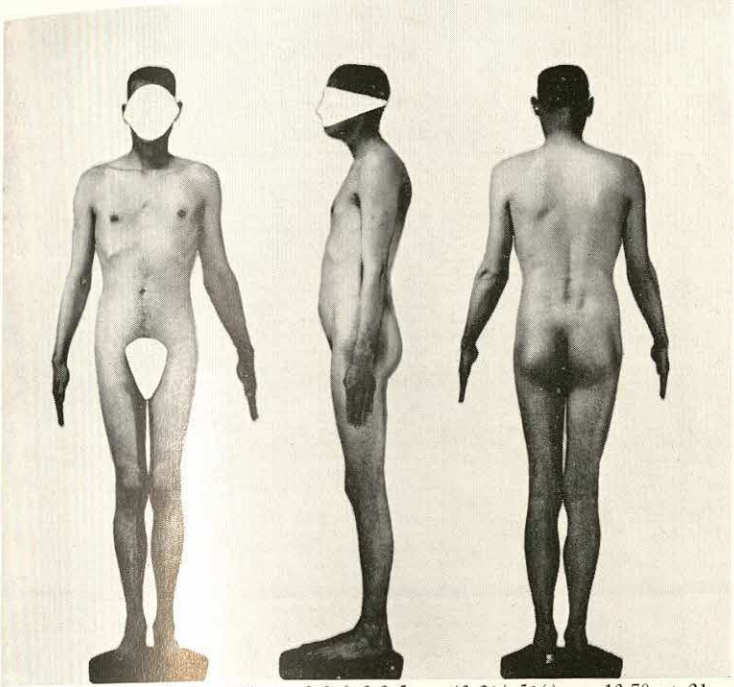


No. 411 *3 2 6* (*1*) 3 2 6–3 2 6 13.80 at 22
2½ 2 6, 3 2 6, 3 2 6, 3 2 6, 2½ 2½ 6

326

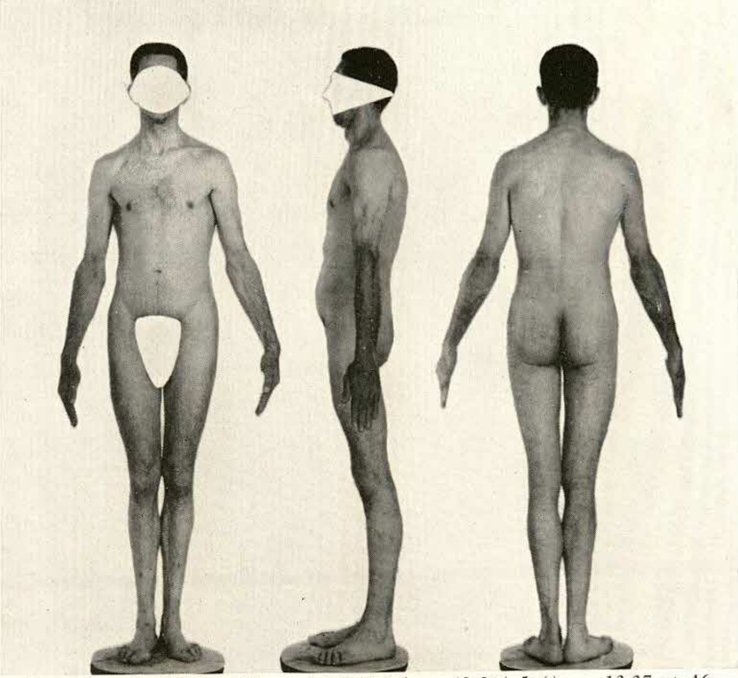


No. 412 *3 2 6* (*2*) 3 2 6–3 2 6 13.72 at 29
3 2½ 5½, 3 2½ 6, 3 2 5½, 3 2 6, 3 2 6

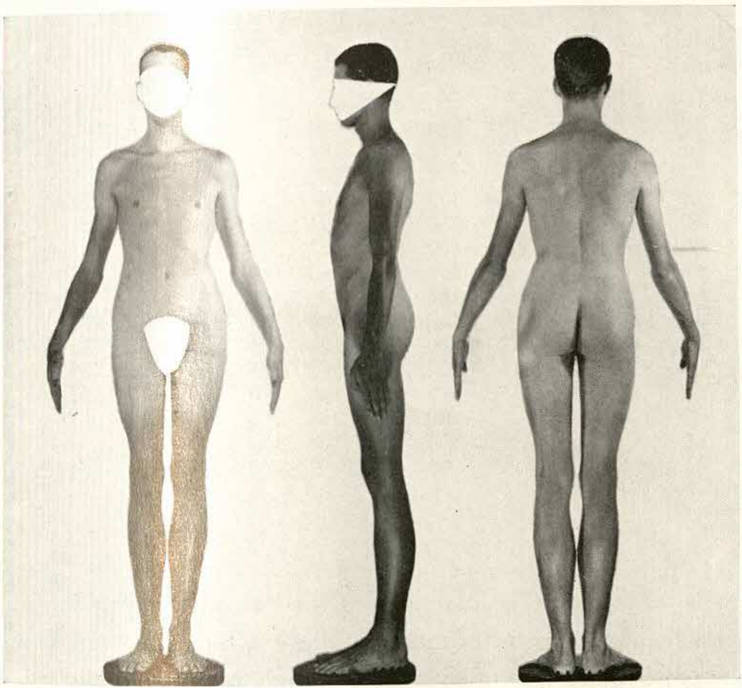


No. 413 *3 2 6* (*3*) 3 2 6–3 3 5 (3 2½ 5½) 13.70 at 21
3 2½ 5½, 3 2½ 5½, 3 2½ 5½, 3 2½ 5½, 3 2½ 6

326

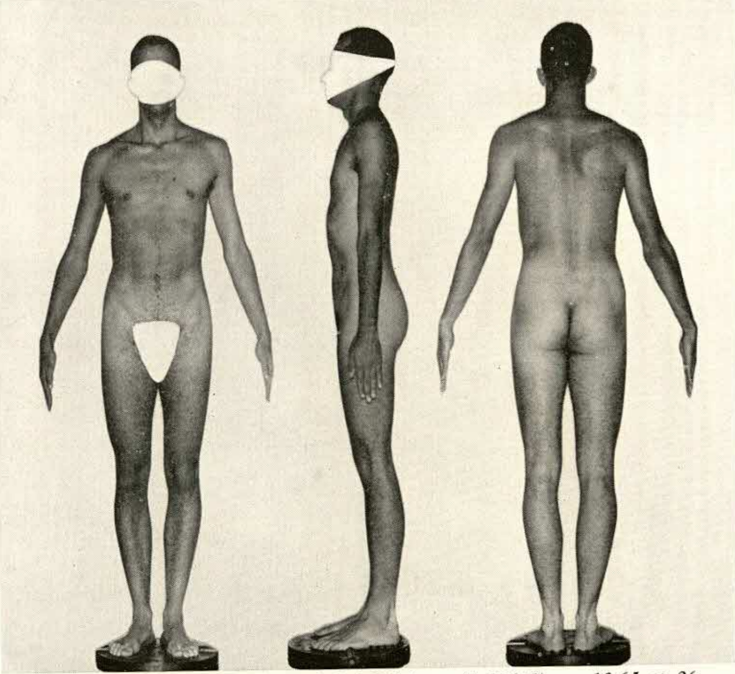


No. 414 *3 2 6* (*4*) 3 2 6–3 3 5 (3 2½ 5½) 13.37 at 46
3 2½ 5½, 2½ 3 5½, 2½ 3 5½, 3 2 5½, 3 1½ 6

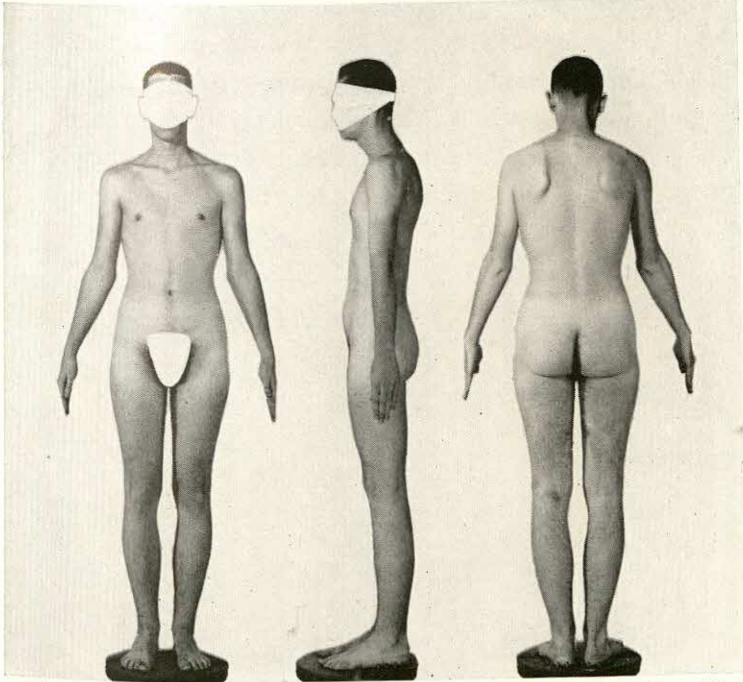


No. 415 *3 2 6* (*5*) 3 2 6–3 3 6 (3 2½ 6) 13.84 at 18
2½ 2½ 6½, 3 2½ 6, 2½ 2 6, 3 2½ 6, 3 2½ 5½

326

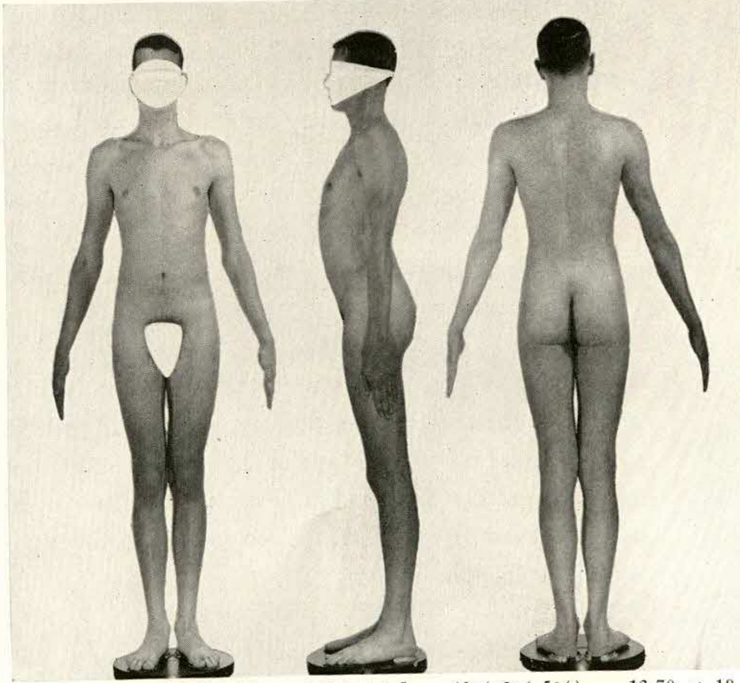


No. 416 *3 2 6* (*6*) 3 2 6–3 3 6 (3 2½ 6) 13.65 at 26
3 3 5½, 3 2½ 6, 3 2 6, 3 2 6, 3 3 5½



No. 417 *3 2 6* (*7*) 3 2 6–4 2 5 (3½ 2 5½) 13.76 at 19
2½ 2 6½, 3½ 2 5, 3½ 2 5, 3½ 2 5½, 4 2½ 4½

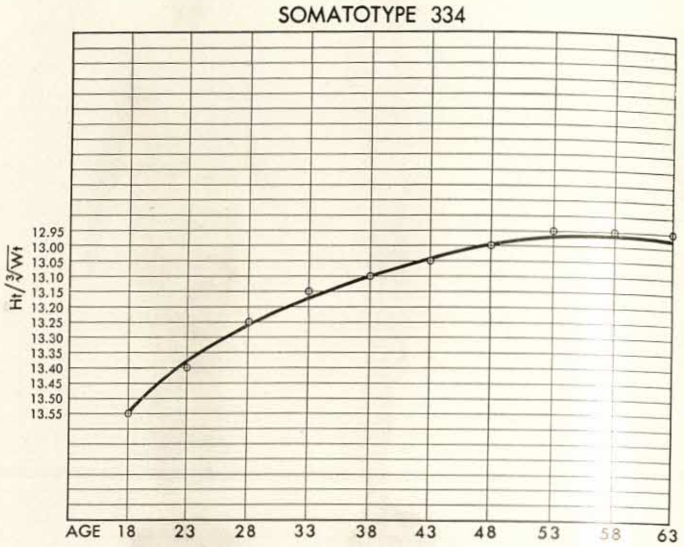
326

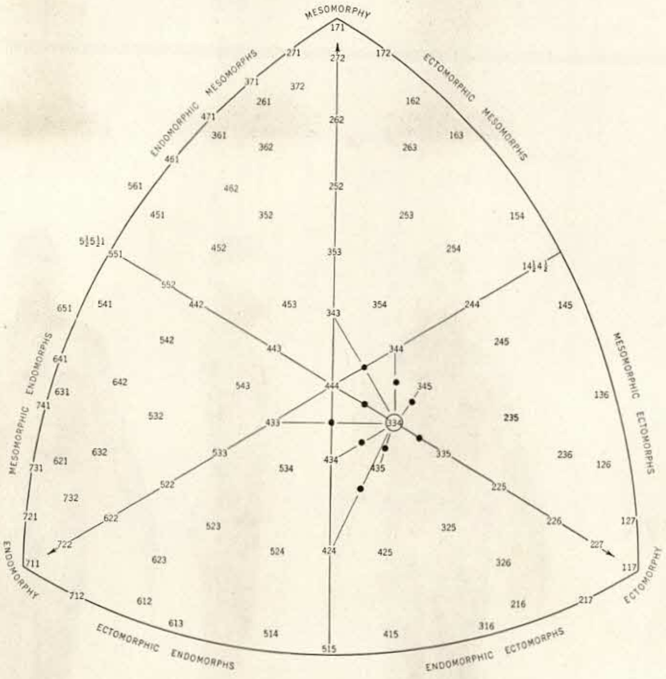


No. 418 *3 2 6* (*8*) 3 2 6–4 3 5 (3½ 2½ 5½) 13.70 at 18
3½ 3 5½, 3½ 2 6, 3 2 5½, 3½ 2½ 5½, 3½ 2½ 6

17. RABBITS

Somatotype 3 3 4 *(Balanced midrange ectomorphy, 10-level.) Cottontail rabbits. Quiet, sensitive, introverted little herbivores who mind their own business and by doing so generally manage to replenish their population as fast as the carnivores can eat it up. Nos. 419–442.*



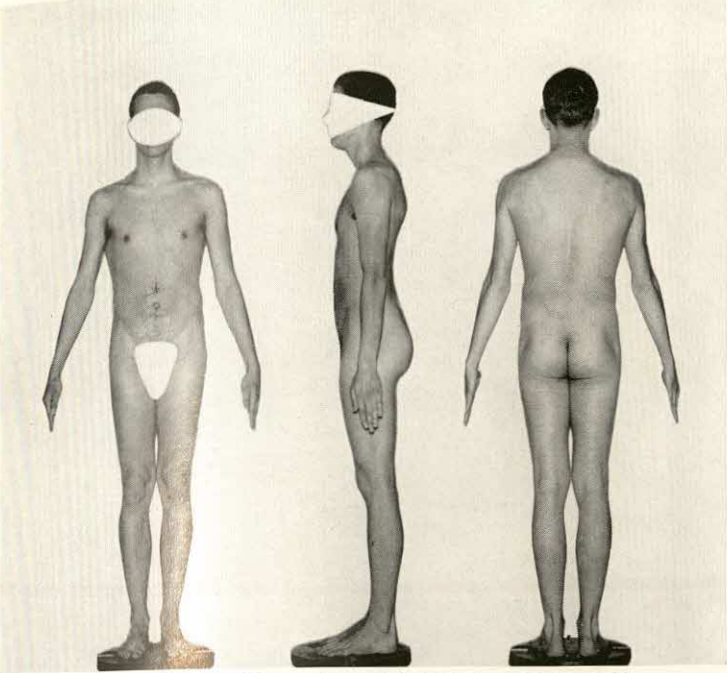


Weight for Age and Height

Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	170	175	181	184	188	190	192	193	193	192
74	163	168	174	177	180	182	185	186	186	185
73	157	162	167	170	173	175	178	179	179	179
72	150	155	159	163	166	168	170	170	170	170
71	144	149	153	156	159	161	163	164	164	164
70	138	143	147	150	153	155	157	157	157	157
69	132	137	141	144	147	148	150	151	151	150
68	126	131	135	138	140	142	144	144	144	144
67	121	125	129	132	134	136	137	137	137	137
66	115	119	123	126	128	129	131	131	131	130
65	110	114	117	120	122	124	125	126	126	126
64	105	109	112	115	117	118	119	120	120	120
63	100	104	107	109	111	113	114	114	114	113
62	96	99	102	104	106	108	109	109	109	109
61	91	94	97	99	101	102	103	104	104	104

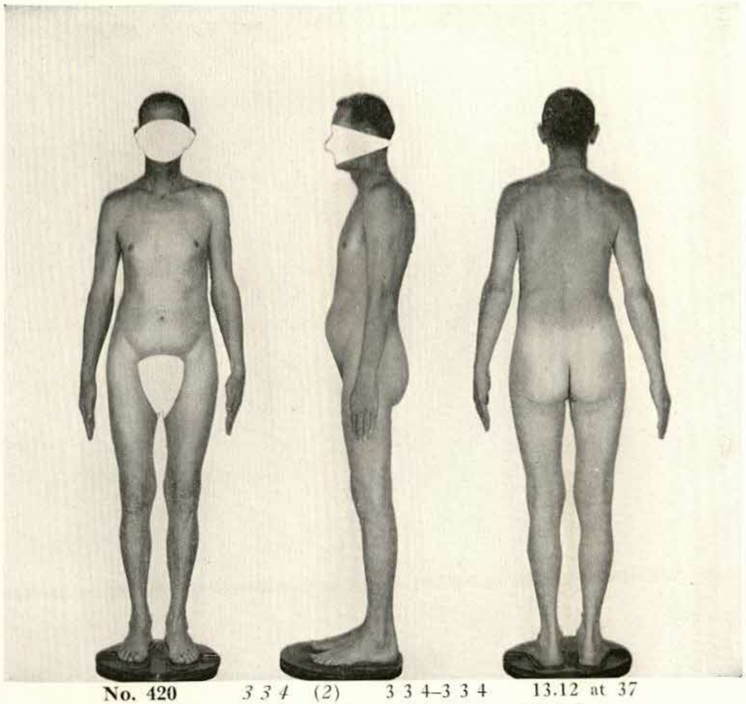
Rarity 1. Incidence 32 per thousand. In almost any considerable gathering of men there will be a sprinkling of rather unremarkable, moderately frail little fellows who seem never to be very well fed, or well loved, or even much attended to. They tend to cling to the periphery of things, are rarely at the center of anything, and even their votes are likely to be overlooked unless they are on the right side. Usually they are pale, pinched appearing. Often they are somewhat rabbit faced, and the look in their eyes suggests damp hideaways among rocks and old stumps. Yet they could no more be mistaken for the *extreme* weaklings—the extreme mesopenes—than for the mesomorphic royalty.

These 3 3 4's are caught just about halfway between, and in their overt behavior, as well as in their dreams, they look both ways. Many of them turn up as delinquent youths, although probably never as persistent or successful criminals (see VDY, Chapter 4). Sometimes they try to be athletes or "regular fellows" and lose their youth in a hopeless pursuit of muscle culture, which for them becomes the culture of trying to be tough. Many go quite the other way and do well at academics or at some artistic pursuit. A generous proportion break down mentally, and the 3 3 4 seems on the edge of that hebephrenic territory which includes mainly the mesopenic ectomorphs. In English universities I had the impression that the 3 3 4 was unusually abundant. In one of our first somatotype studies (1938) we found 51 examples of this somatotype among the first 1000 American college boys photographed.

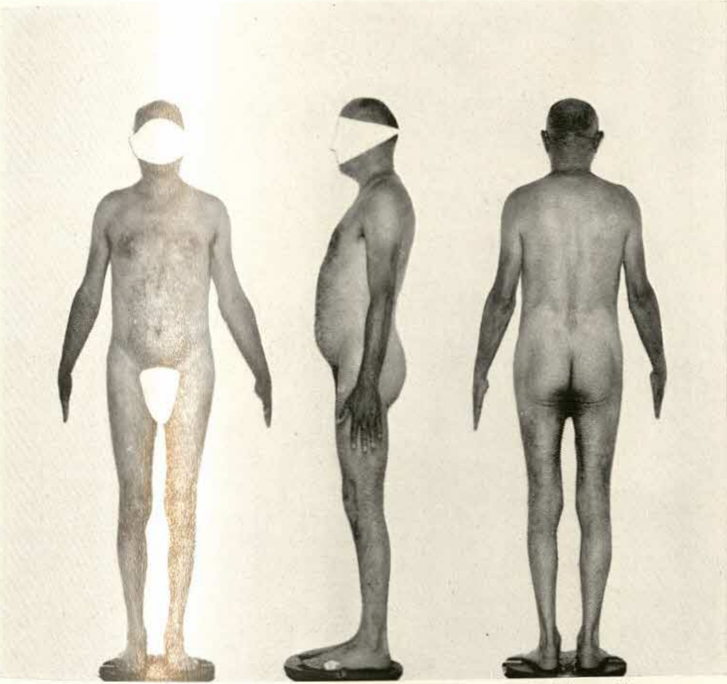


No. 419 *3 3 4* (*1*) 3 3 4–3 3 4 13.47 at 20
3 3 4, 3 2½ 4½, 3 2½ 4½, 3 3 4, 3 3½ 4

334

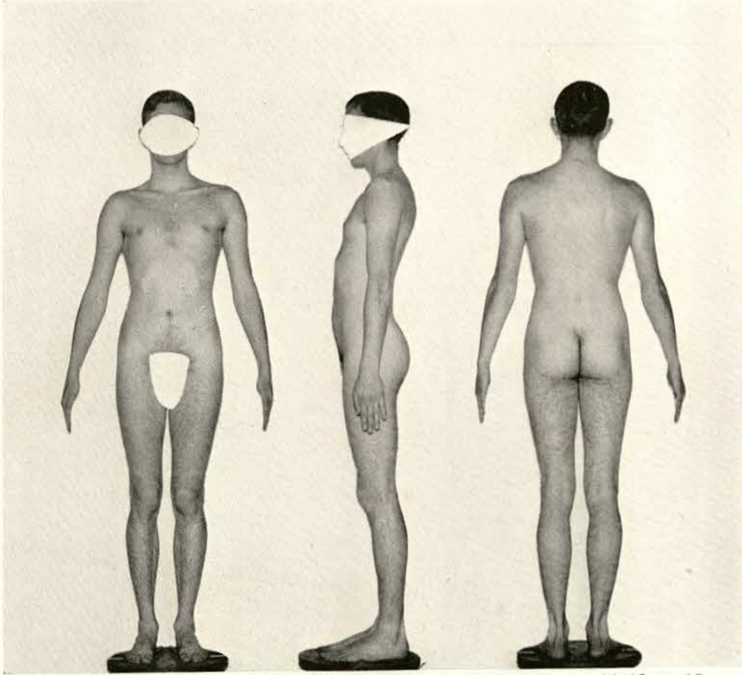


No. 420 *3 3 4* (*2*) 3 3 4–3 3 4 13.12 at 37
3 3 4, 3 3 4, 3 3 4, 3 3 4, 3 2½ 4½

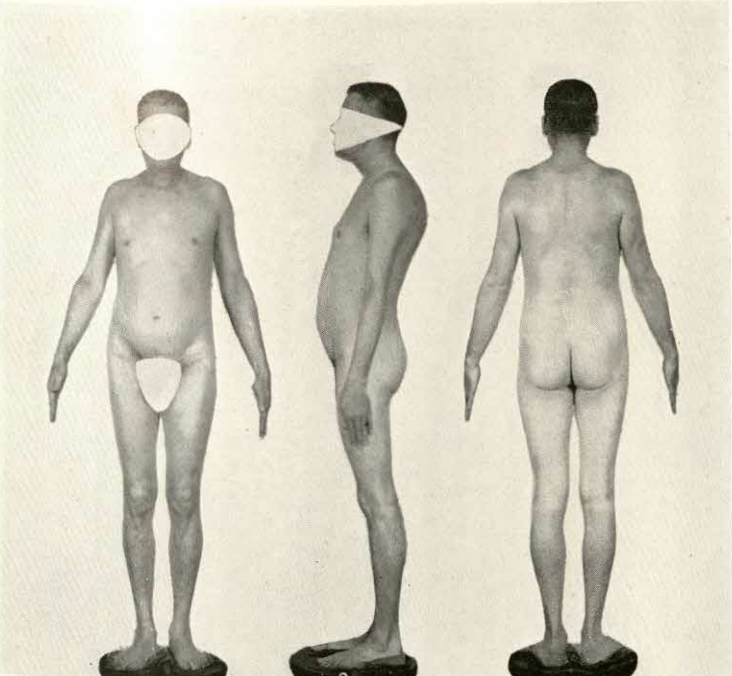


No. 421 *3 3 4* (*3*) 3 3 4–3 3 4 12.91 at 60
3 4 3, 3½ 3 4, 3 3 4, 3 3½ 4, 3 2 5

334

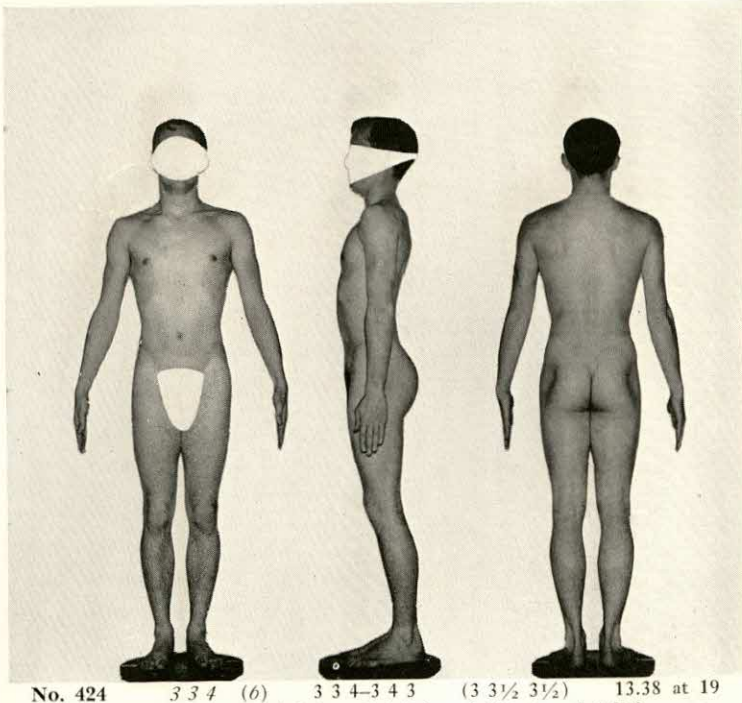


No. 422 *3 3 4* (*4*) 3 3 4–3 3 5 (3 3 4½) 13.65 at 19
3 3 4, 3 3 4½, 3½ 2½ 5, 3 3 4½, 3 3 4



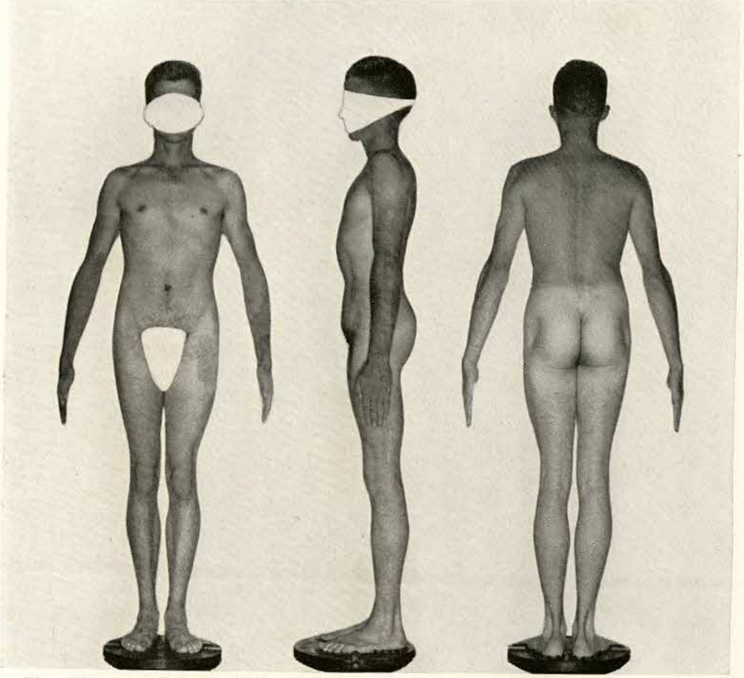
No. 423 *3 3 4* (*5*) 3 3 4–3 3 5 (3 3 4½) 13.08 at 54
3 3 4, 3 3 4, 3½ 2½ 5, 3½ 3 4, 3 2½ 5

334

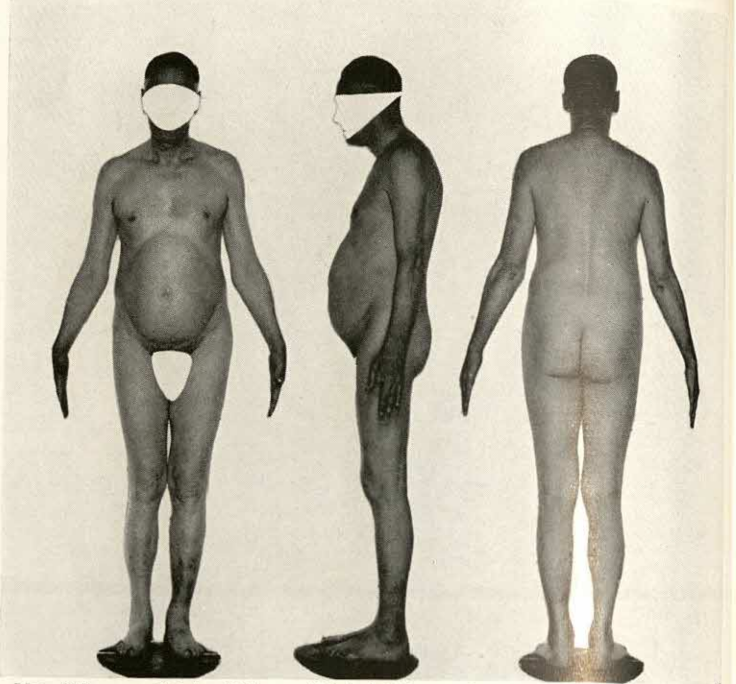


No. 424 *3 3 4* (*6*) 3 3 4–3 4 3 (3 3½ 3½) 13.38 at 19
3 3½ 3½, 3 3½ 3½, 3 4 3½, 3 3½ 4, 3 4 3½

334

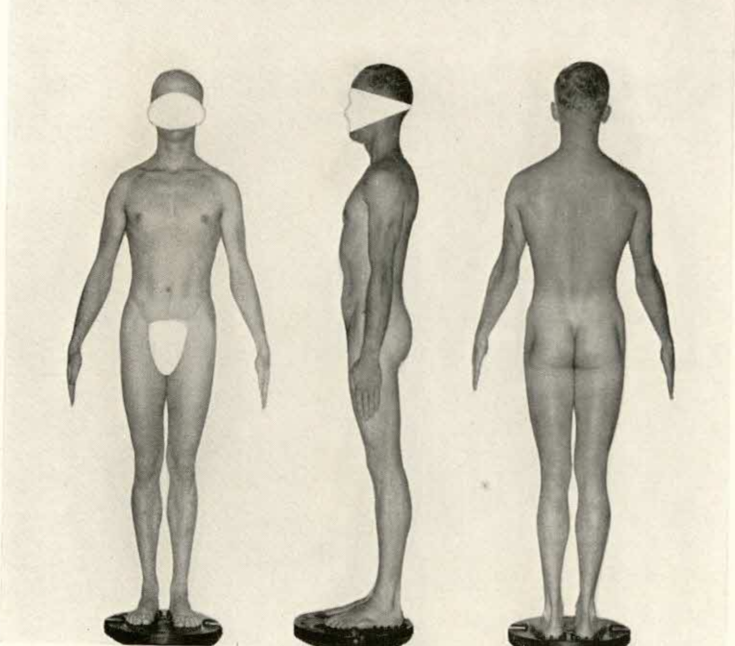


No. 437 *3 3 4* *(19)* 3 3 4–4 3 5 (3½ 3 4½) 13.37 at 23
4 3 4½, 3½ 3 4½, 3 3½ 4½, 3½ 3 4½, 4 2½ 4½

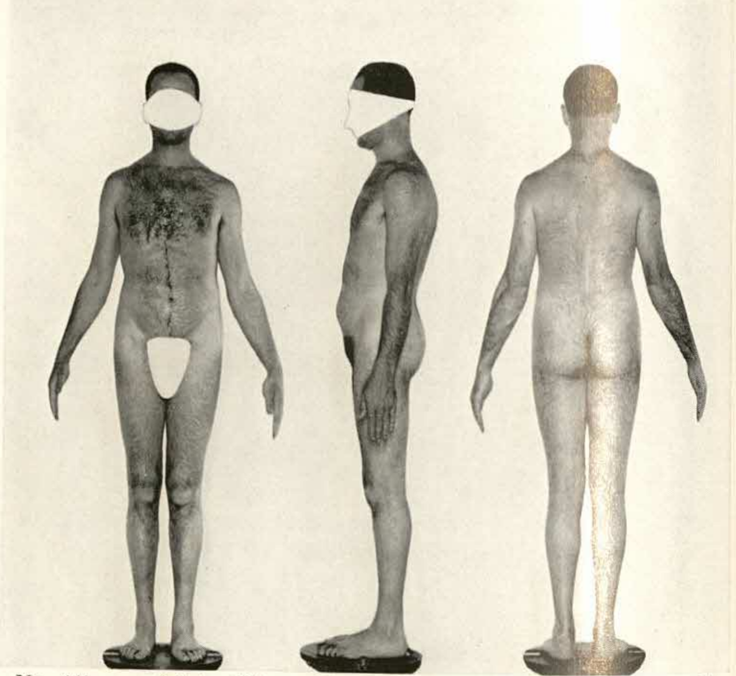


No. 438 *3 3 4* *(20)* 3 3 4–4 3 5 (3½ 3 4½) 12.90 at 64
3½ 3 4½, 3½ 3½ 4½, 3½ 2½ 4½, 3½ 3 4, 3½ 3½ 4

334

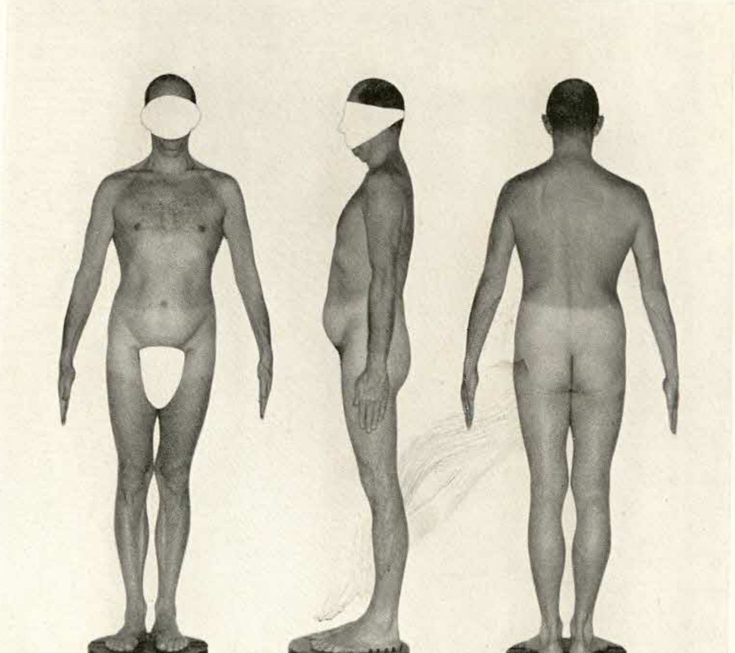


No. 439 *3 3 4* *(21)* 3 3 4–4 4 4 (3½ 3½ 4) 13.26 at 20
3½ 3½ 3½, 3 4 3½, 3 3 5, 3½ 3½ 4, 3½ 3 5

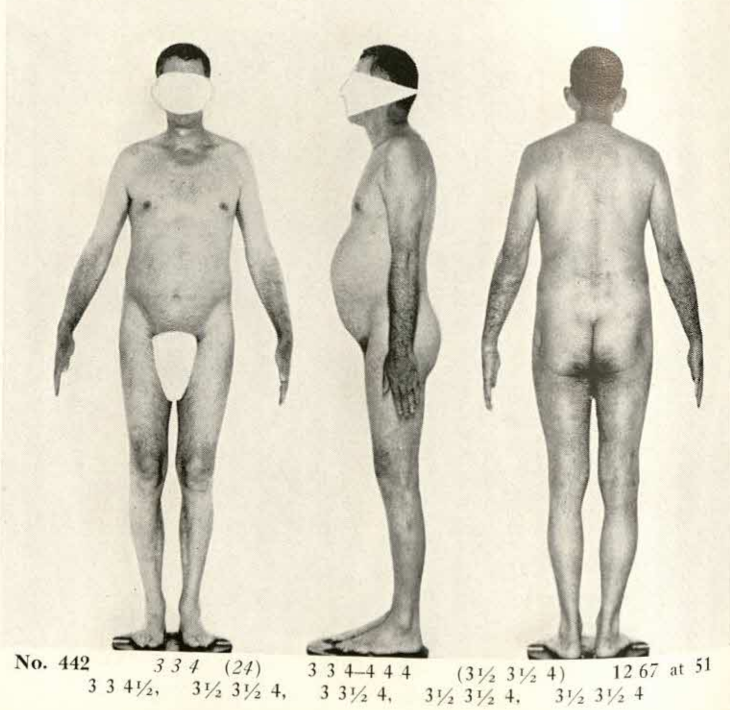


No. 440 *3 3 4* *(22)* 3 3 4–4 4 4 (3½ 3½ 4) 12.81 at 39
3½ 4 4, 3½ 3½ 3½, 3½ 3½ 4, 3½ 3½ 3½, 3½ 3½ 4½

334

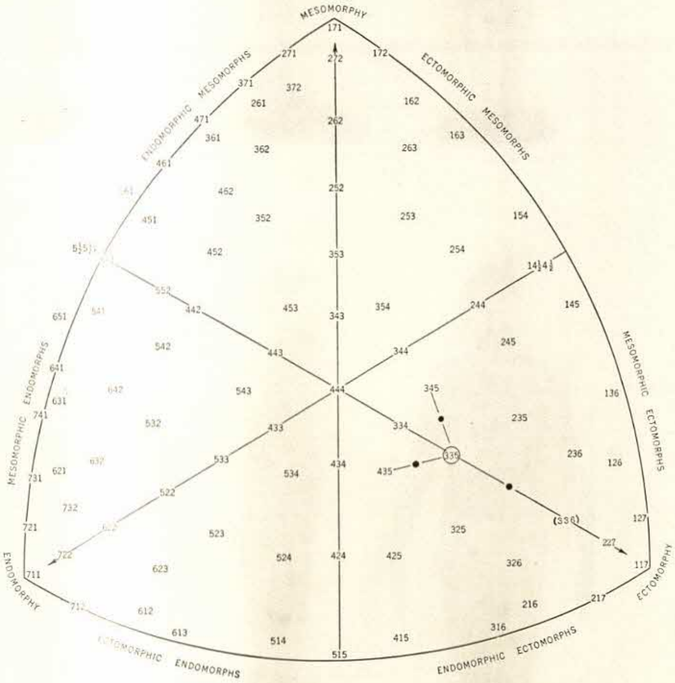


No. 441 *3 3 4* *(23)* 3 3 4–4 4 4 (3½ 3½ 4) 12.76 at 42
3½ 3 4½, 4 3½ 4, 3½ 3 4, 4 3½ 4, 3½ 4 4



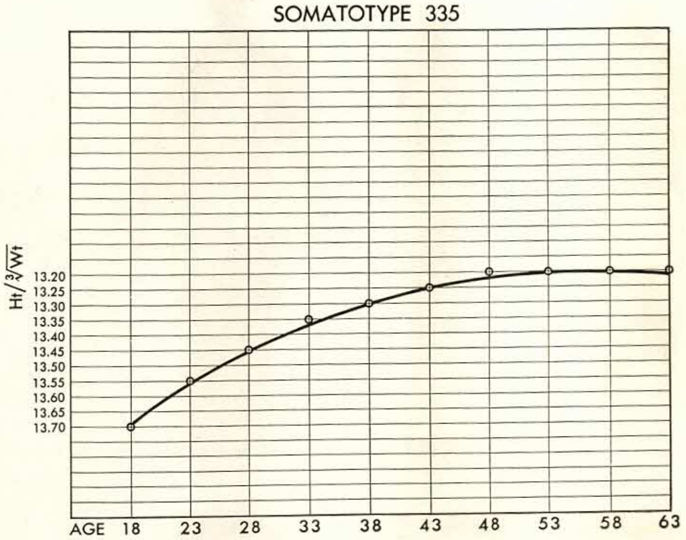
No. 442 *3 3 4* *(24)* 3 3 4–4 4 4 (3½ 3½ 4) 12 67 at 51
3 3 4½, 3½ 3½ 4, 3 3½ 4, 3½ 3½ 4, 3½ 3½ 4

Somatotype 3 3 5 *(Balanced ectomorphy, 11-level.) Big rabbits and the hares. Longer legged, taller, defenseless but nice juicy fellows who can only run, and whom all the predators regard as their own. The jack rabbits and hares tend to run in the open, instead of hiding in burrows. Nos. 443–451.*



Rarity 1. Incidence 34 per thousand. The commonest ectomorph, and the only ectomorph 5 rated rarity 1. It seems almost a statistical inconsistency that the 3 3 5 should be as common as the midrange 3 3 4, when the ectomorphic mean (3.42) is less than 4. The reason for this may lie in nature's apparent preference for somatotypes totaling 11 in the three components whenever that total is achieved without resorting to the extreme 6 or 7 in one component, and without violating nature's abhorrence of mesopenia in the male (of endopenia in the female).

A 3 3 5 who is 70 inches tall will as an average gain about 16 pounds in his adult life, reaching his maximal 149 pounds in the late forties, and holding there until he is at least well into his sixties. It may be safe to guess from this that the 3 3 5 *normally* will live for at least another decade or decade and a half beyond age 65.

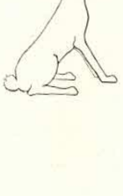


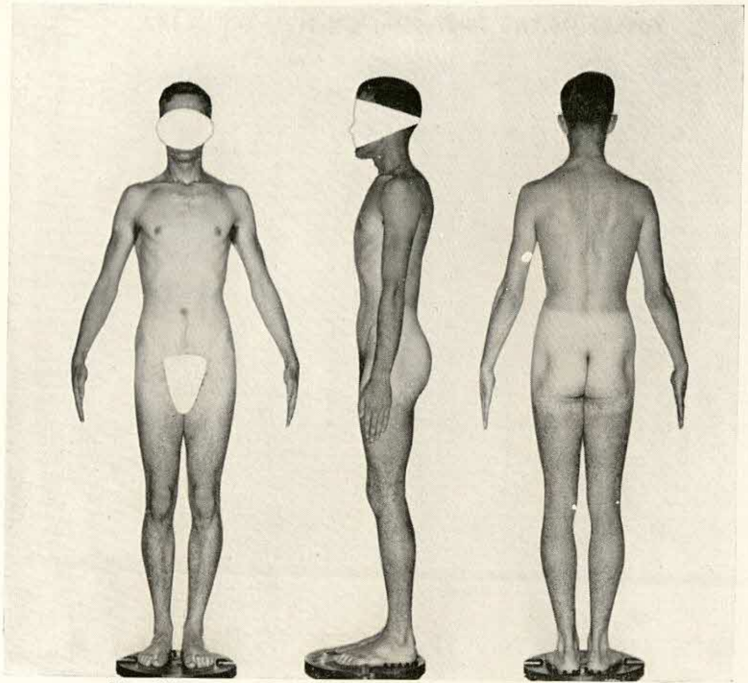
Weight for Age and Height

Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	164	169	173	177	179	181	183	183	183	183
74	158	162	166	169	172	174	176	176	176	176
73	152	156	160	163	165	167	169	169	169	169
72	146	150	153	157	159	161	163	163	163	163
71	139	143	146	150	152	153	155	155	155	155
70	133	137	140	143	146	147	149	149	149	149
69	128	131	135	137	140	141	143	143	143	143
68	122	126	129	132	134	135	137	137	137	137
67	117	120	123	126	128	129	131	131	131	131
66	112	115	117	120	122	123	125	125	125	125
65	107	109	112	114	116	118	119	119	119	119
64	102	104	107	109	111	112	114	114	114	114
63	97	100	102	104	106	107	109	109	109	109
62	93	95	98	99	101	102	103	103	103	103
61	88	90	93	95	96	97	99	99	99	99

The nutrition curves indicate that the 3 3 4 typically does just a little better. At that same stature he can be expected to gain about 20 pounds, but to reach his maximal weight a little later, and perhaps for that reason to have a slightly longer life expectancy.

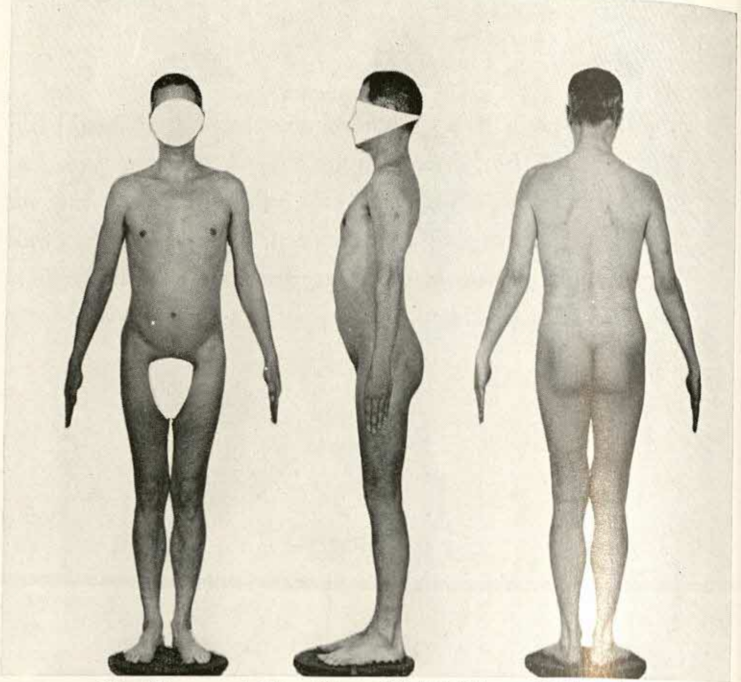
Possibly the guess could be supported that the 3 3 5 is a comparatively *happy* somatotype. With that strongly predominant ectomorphy there is little danger from the *"tough persona"* pitfall that traps so many 3 3 4's. The 3 3 5 is usually tall, tends to be well relaxed and generally has quite active sexual interests. By dressing carefully and avoiding the bathing beaches he often does very well and keeps ahead of the hounds. But his posture seldom pleases the physical educators.



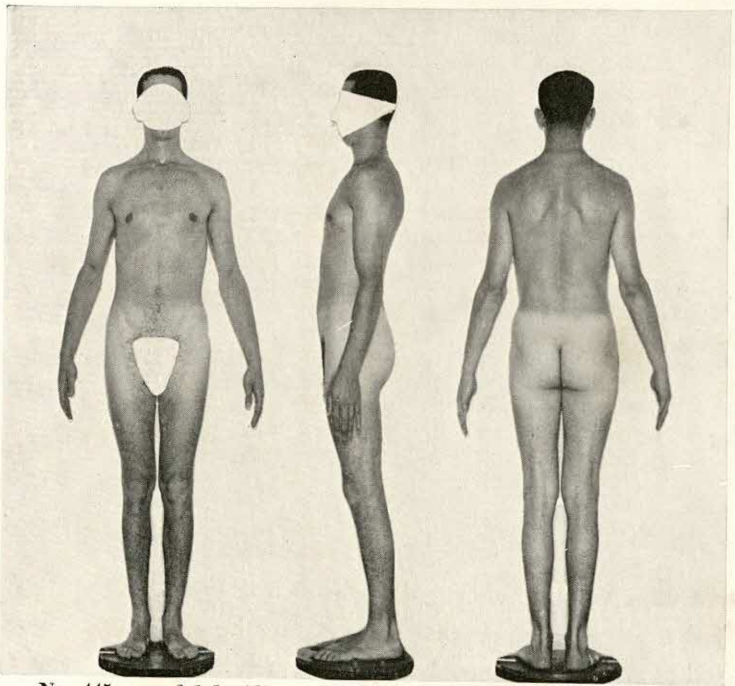


No. 443 *3 3 5* (*1*) 3 3 5–3 3 5 13.60 at 20
3 3 5, 3 3 4½, 3 3 5, 3 3 5, 3 3 4½

335

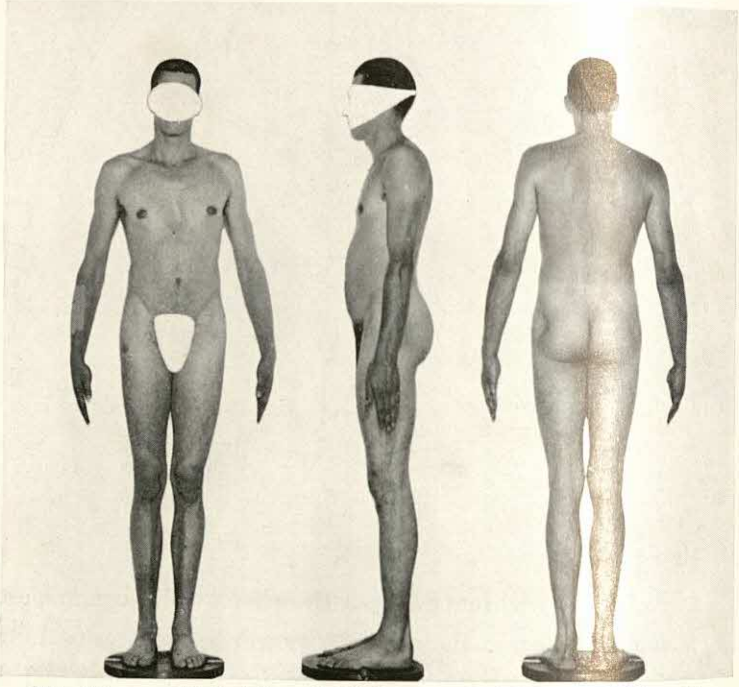


No. 444 *3 3 5* (*2*) 3 3 5–3 3 5 13.24 at 44
3 3 5, 3 3 5, 3 2½ 5, 3 2½ 5, 3 3 5

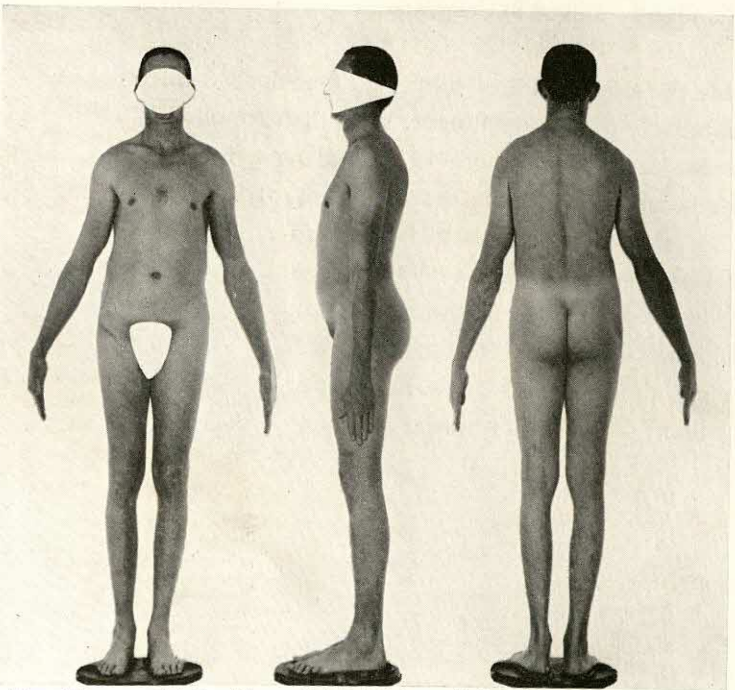


No. 445 *3 3 5* (*3*) 3 3 5–3 3 6 (3 3 5½) 13.53 at 28
3 2½ 5½, 3 3½ 5, 2½ 2½ 5½, 3 3 5½, 3 3 5½

335

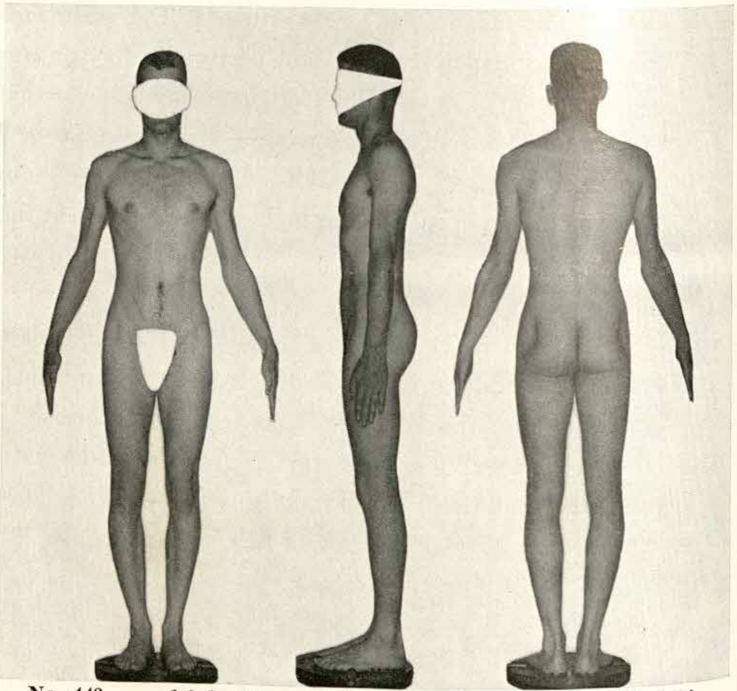


No. 446 *3 3 5* (*4*) 3 3 5–3 3 6 (3 3 5½) 13.46 at 32
3 3 5½, 3 2½ 5½, 3 3 5½, 3 3½ 5, 3½ 3 5½



No. 447 *3 3 5* (*5*) 3 3 5–3 3 6 (3 3 5½) 13.37 at 44
3 3 5, 3½ 2½ 5½, 3 3 5½, 3 3½ 5, 3½ 2½ 6

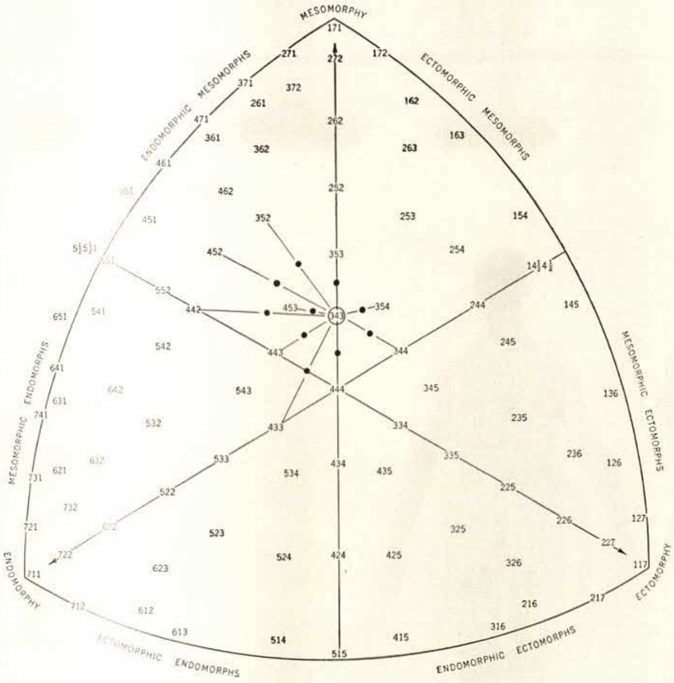
335

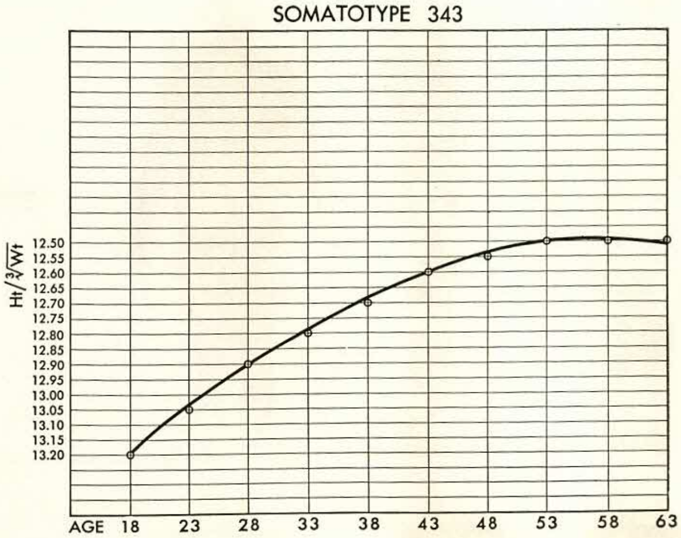


No. 448 *3 3 5* (*6*) 3 3 5–3 4 5 (3 3½ 5) 13.46 at 24
3 3½ 5, 3 3½ 5, 2½ 3½ 4½, 3 3 5½, 3 3½ 5

18. THE THREE-FOUR DOGS, OR MID-RANGE DOGS

Somatotype 3 4 3 *(Balanced midrange mesomorphy, 10-level.) Airedales. Spunky, ordinary fellows who physically are nothing in particular but have good normal instincts and will gladly chase a rabbit or bark at a lion. Nos. 452–482.*





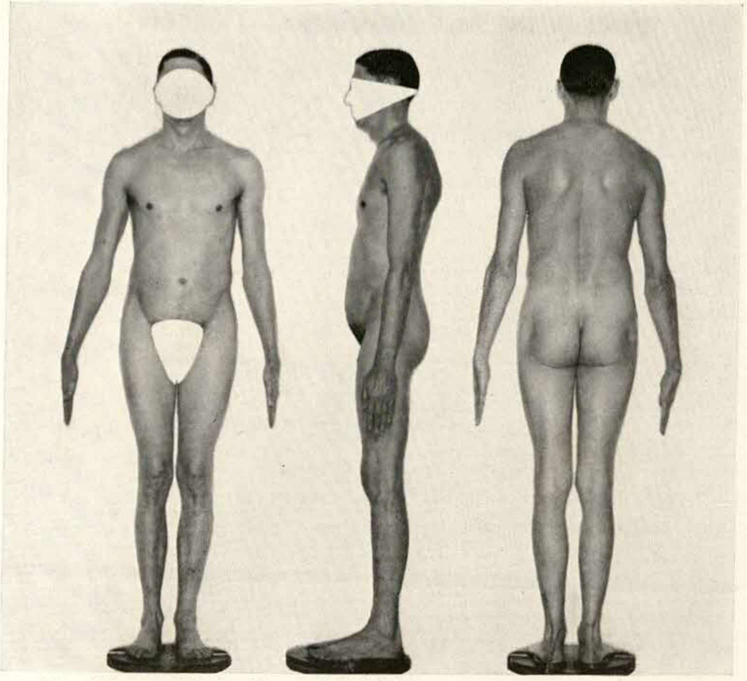
Weight for Age and Height

Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	183	190	195	201	205	209	214	215	217	217
74	176	182	188	193	197	201	205	207	208	208
73	169	175	180	185	189	193	197	199	200	200
72	162	168	172	177	181	185	189	190	191	191
71	156	161	166	170	174	178	181	183	184	184
70	150	155	159	163	167	170	174	175	177	177
69	143	148	153	157	160	164	167	168	169	169
68	137	142	146	150	153	157	160	161	162	162
67	131	136	139	143	146	149	152	154	155	155
66	125	129	133	137	140	143	146	147	148	148
65	119	124	127	131	133	136	139	140	141	141
64	114	118	121	125	127	130	133	134	134	134
63	109	113	116	119	121	124	127	128	128	128
62	104	108	110	113	116	118	121	122	122	122
61	99	102	105	108	110	113	115	116	116	116

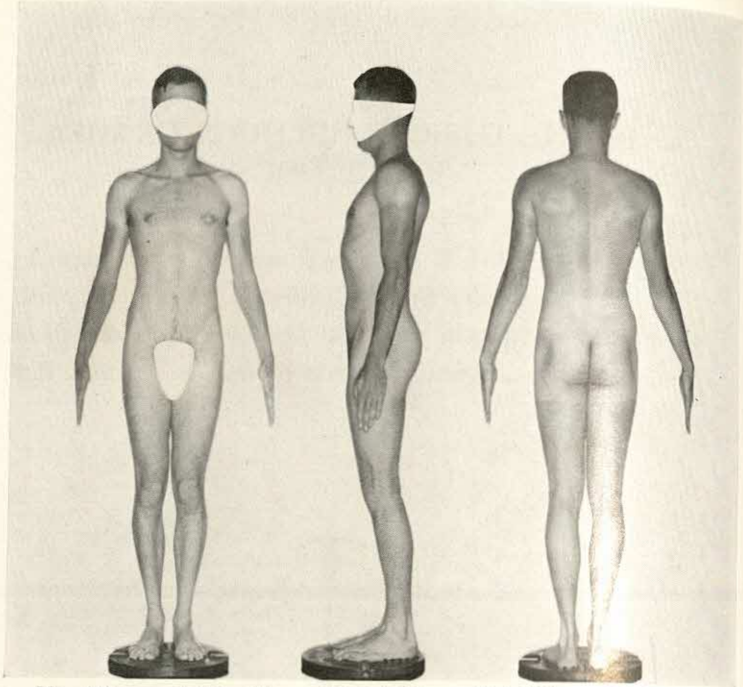
Rarity 1. Incidence 50 per thousand. Fourth commonest somatotype. Surpassed only by the 3 4 4, 3 5 3 and 4 4 3, each of which totals 11 in the three components. Collectively, these four commonest somatotypes make up 22.3 per cent, or almost a quarter, of the male population. This is the common man, about whom great concern has been expressed in many quarters. If our data are not misleading, the common man is healthier, better treated, and longer lived than has been supposed. He has somewhat more than average mesomorphy, so can somewhat more than adequately take care of himself in the everyday rough and tumble of life, and his nutrition curves indicate that, for the *common* man at any rate, threescore and ten is not the normal life span. Fourscore would be nearer to the target. For the 3 4 4, even that may be conservative. In short, it seems possible that by dealing with gross averages and by thus averaging in somatotypes and stocks that are short lived, we may have been deriving overly pessimistic estimates as to the longevity of our most common stocks.

At a stature of 70 inches the 3 4 3 picks up 27 pounds during his adult life, on the average. The 3 4 4 adds 25 pounds, the 4 4 3 37 pounds, and the 3 5 3 31 pounds. Thus these four somatotypes show an average gain of 30 pounds, at five feet ten inches. Perhaps this could be taken as a normal permissible gain, for average men, at that stature, and it is at least a possibility that if some of the heavier somatotypes were held by diet to nutrition curves parallel to this one, they might live longer.

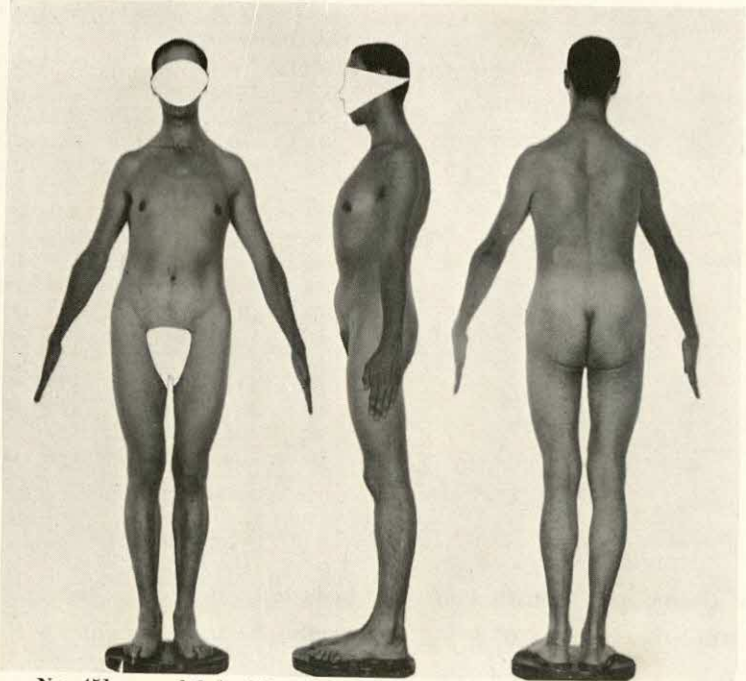
335



No. 449 *3 3 5* (*7*) 3 3 5–3 4 5 (3 3½ 5) 13.19 at 42
3 4 4, 2½ 3½ 5, 3 3 5½, 3 3 5, 3½ 3½ 5

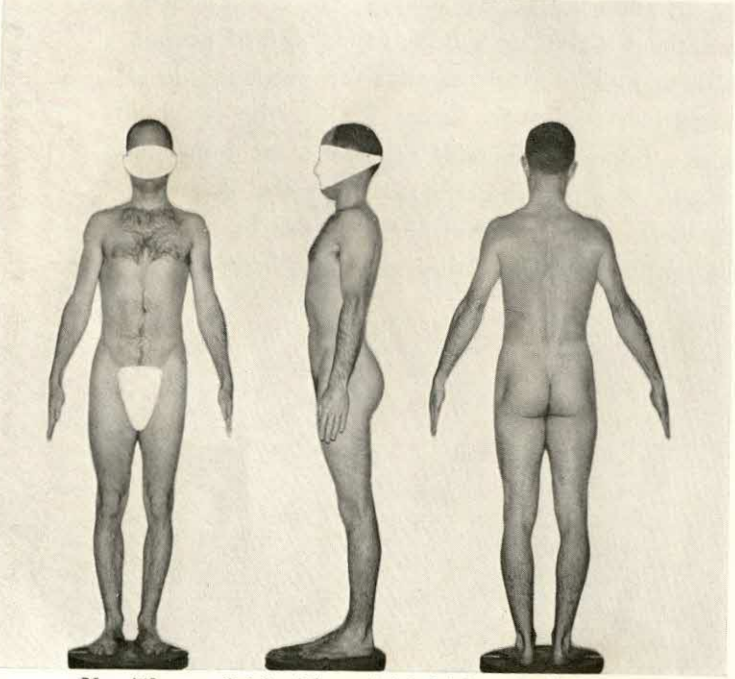


No. 450 *3 3 5* (*8*) 3 3 5–4 3 5 (3½ 3 5) 13.45 at 22
4 3 5, 3½ 3 4½, 3½ 3 5, 3½ 3 5, 3½ 3 5

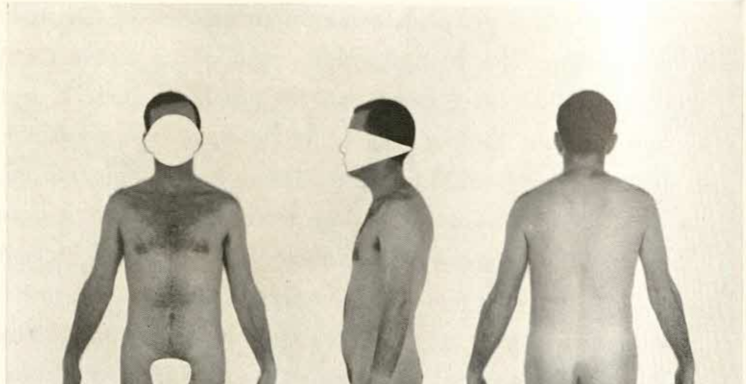


No. 451 *3 3 5* (*9*) 3 3 5–4 3 5 (3½ 3 5) 13.20 at 37
3 2½ 6, 3½ 3 5, 3½ 2½ 5, 3½ 3 4½, 3½ 3 5½

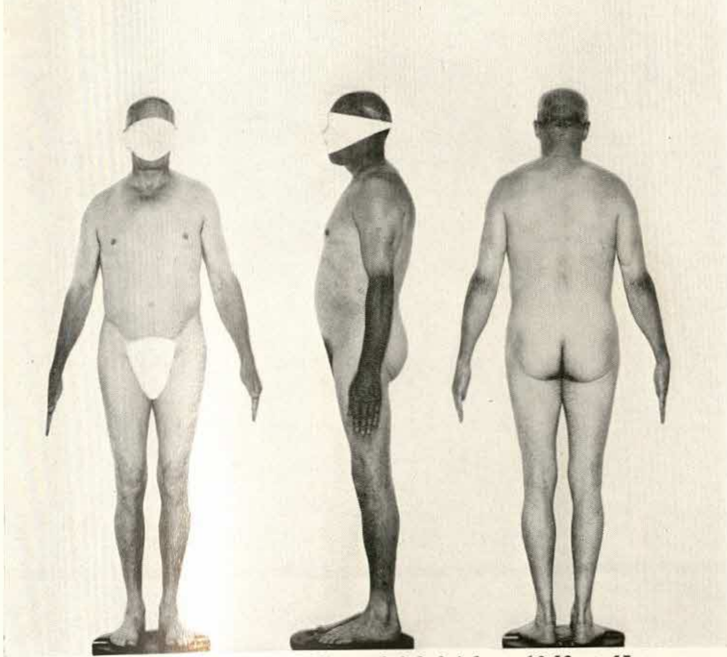
343



No. 452 *3 4 3* (*1*) 3 4 3–3 4 3 13.00 at 25
3 4 3, 3 4 3, 3 3½ 3½, 3 4 3½, 3 4 3

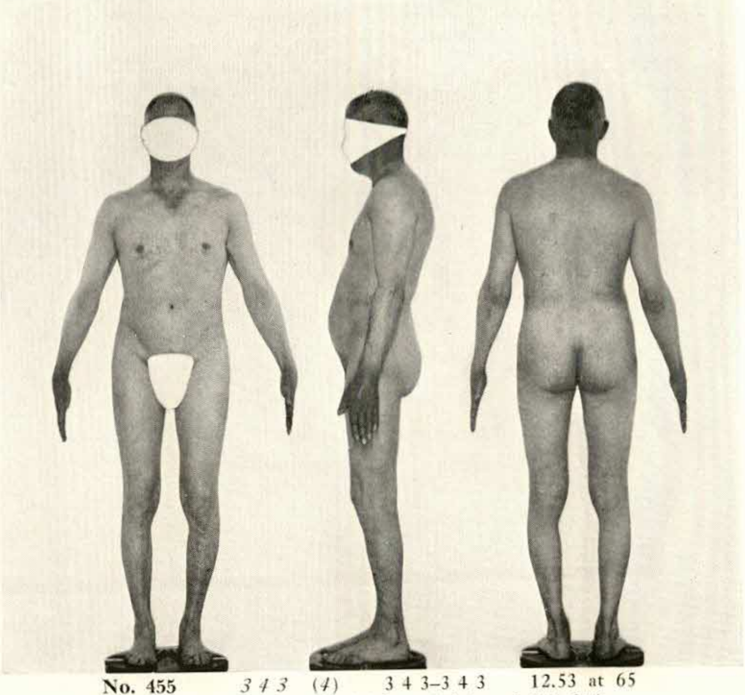


No. 453 *3 4 3* (*2*) 3 4 3–3 4 3 12.71 at 38
3 4 3, 3 4 3½, 3 4 3, 3½ 3½ 3½, 3½ 4½ 3

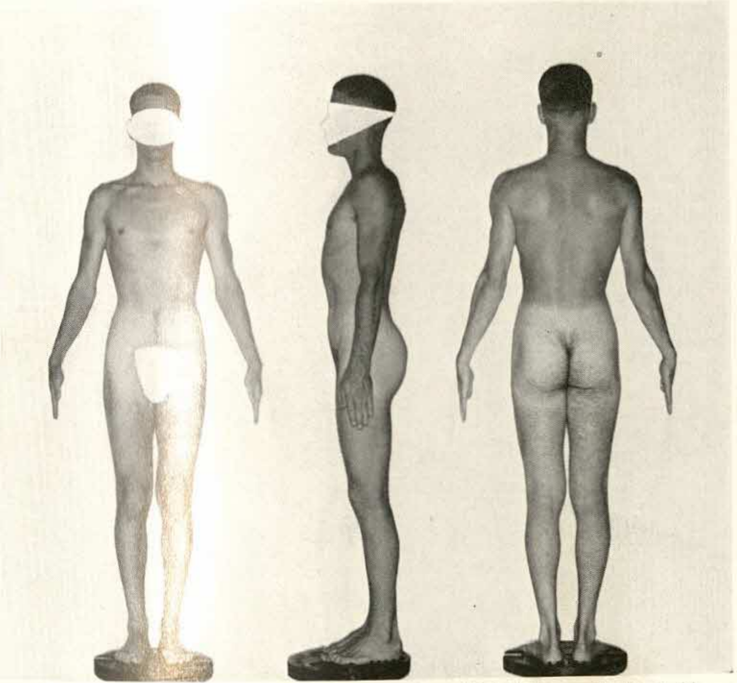


No. 454 *3 4 3* (*3*) 3 4 3–3 4 3 12.52 at 57
3 4 3, 3 4½ 2½, 3 4½ 3, 3 4½ 2½, 3 3 4½

343

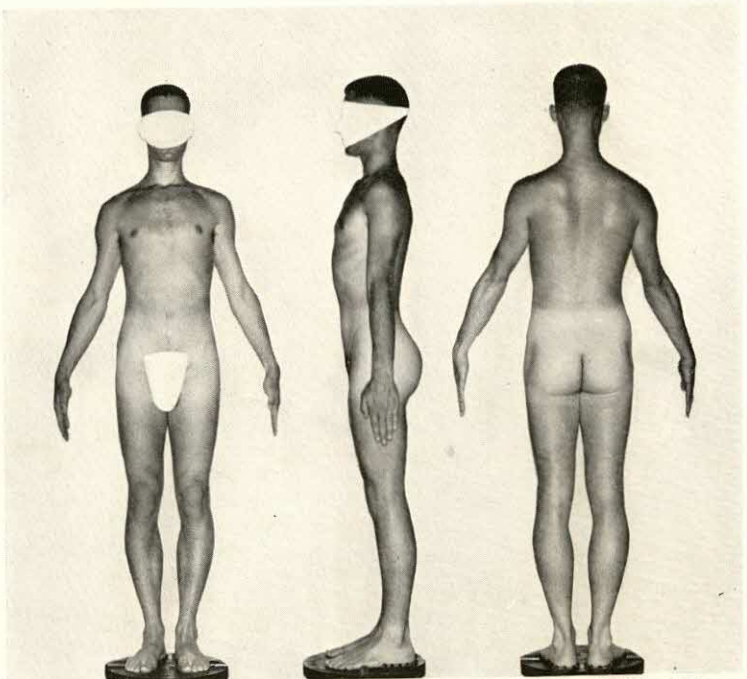


No. 455 *3 4 3* (*4*) 3 4 3–3 4 3 12.53 at 65
3 4½ 2½, 3 4 3, 3 4 3, 3 4 3, 3 3½ 3½

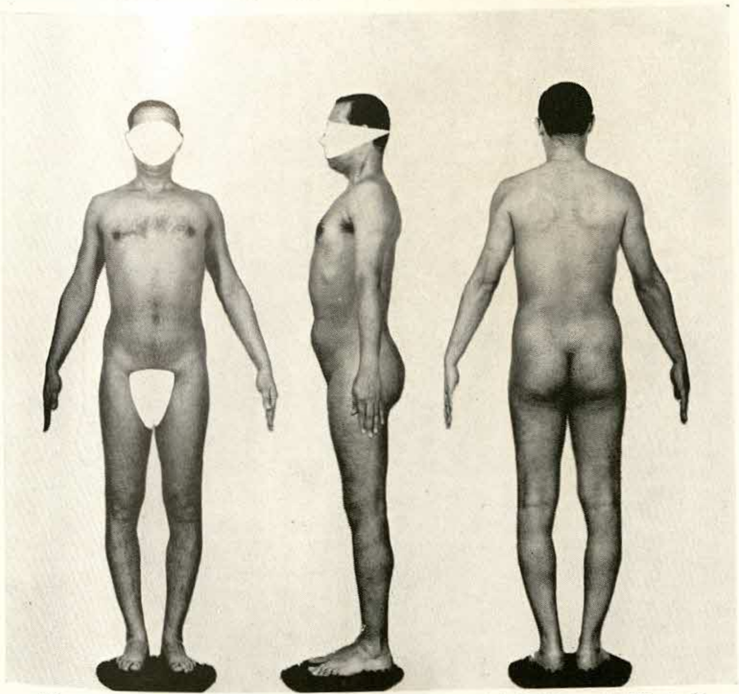


No. 456 *3 4 3* (5) 3 4 3–3 4 4 (3 4 3½) 13.16 at 21
2½ 3½ 4, 2½ 4 3½, 3 3½ 4, 3 4 3½, 3 4 3½

343

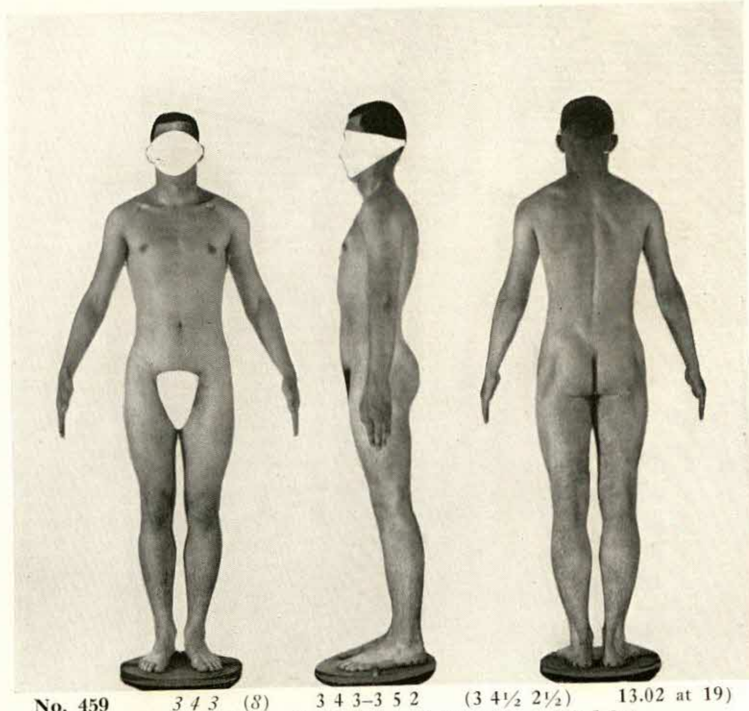


No. 457 *3 4 3* (*6*) 3 4 3–3 4 4 (3 4 3½) 13.13 at 23
3 3½ 4, 3 4 3½, 3 4 3½, 3 4 3½, 3 4½ 3

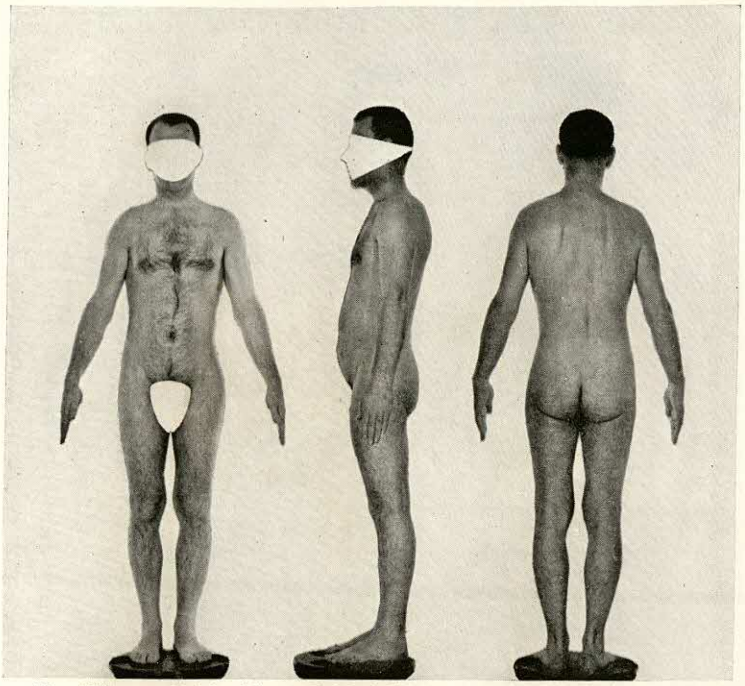


No. 458 *3 4 3* (7) 3 4 3–3 4 4 (3 4 3½) 12.62 at 51
3 4 3½, 3 4 3, 3 3½ 3½, 3 4 3½, 3 4 3

343

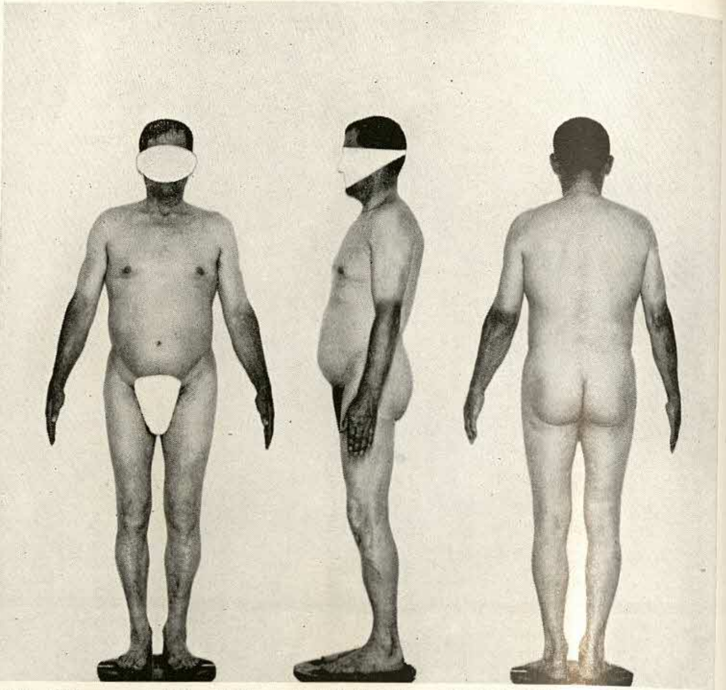


No. 459 *3 4 3* (*8*) 3 4 3–3 5 2 (3 4½ 2½) 13.02 at 19)
3 5 2, 3 4 3, 3 4½ 2½, 3 4½ 2½, 3½ 5 2½

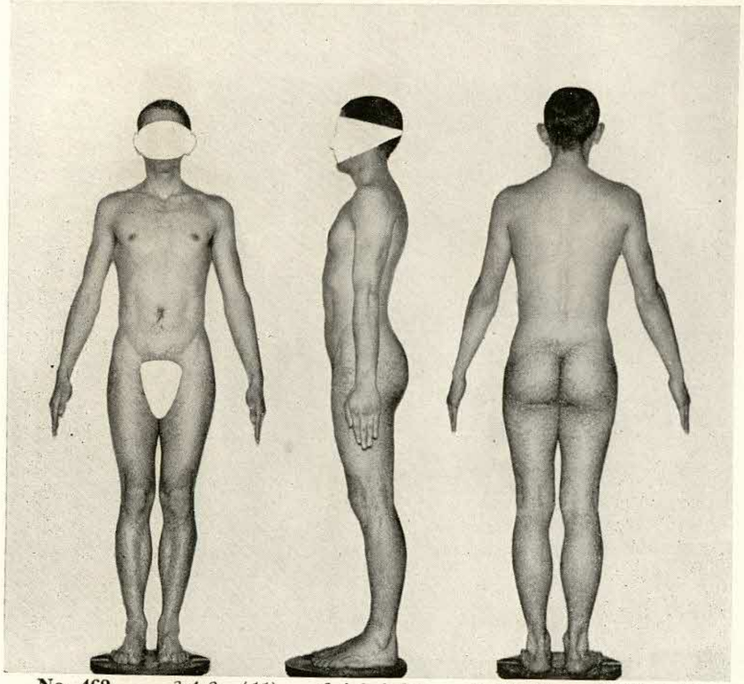


No. 460 *3 4 3* (*9*) 3 4 3–3 5 2 (3 4½ 2½) 12.44 at 38
3 4½ 3, 3 4 3, 3½ 4½ 2, 3 4½ 2½, 3½ 4 2½

343

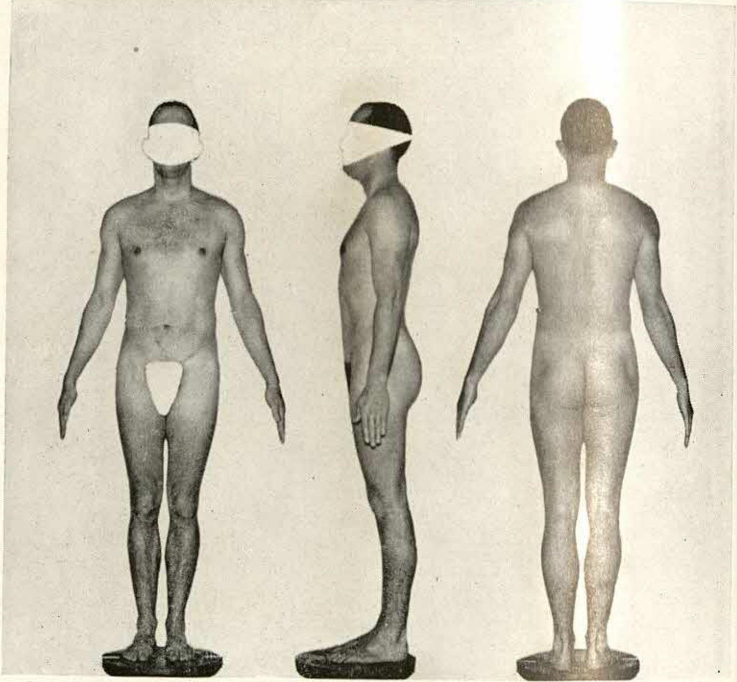


No. 461 *3 4 3* (*10*) 3 4 3–3 5 2 (3 4½ 2½) 12.26 at 62
3 4½ 2½, 3 4½ 2½, 3 4½ 2½, 3 5 2, 3½ 4 2½

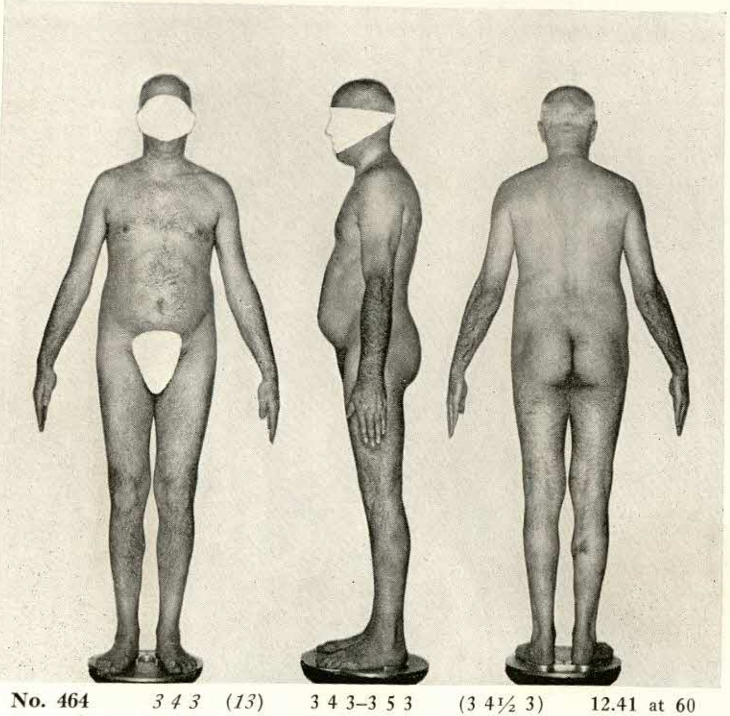


No. 462 *3 4 3* (*11*) 3 4 3–3 5 3 (3 4½ 3) 12.87 at 25
3 4 3½, 3 4½ 3, 3 4½ 3, 3 4½ 3½, 3½ 5 2½

343

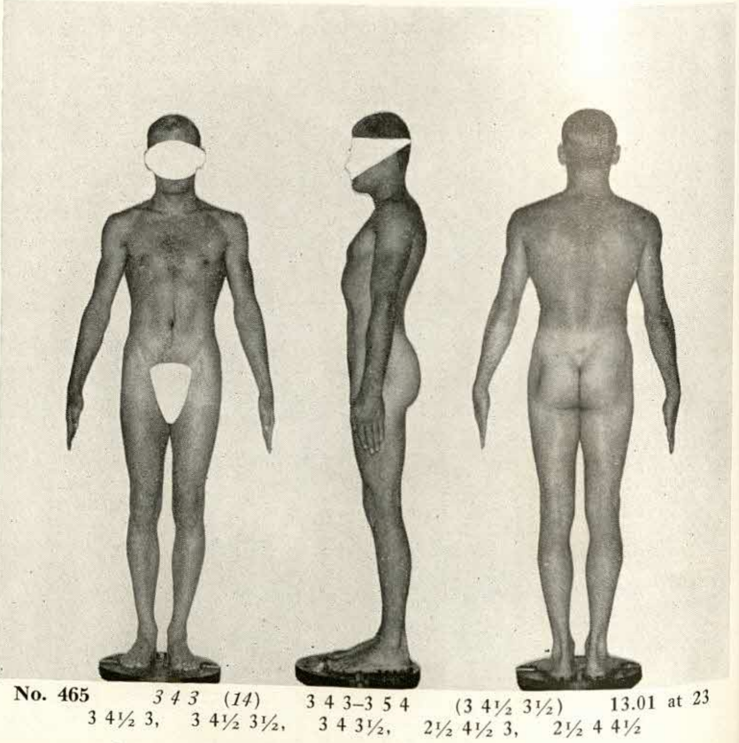


No. 463 *3 4 3* (*12*) 3 4 3–3 5 3 (3 4½ 3) 12.72 at 30
3 4½ 2½, 3 4½ 3, 3 4½ 3, 3 4½ 3, 3 4 3½

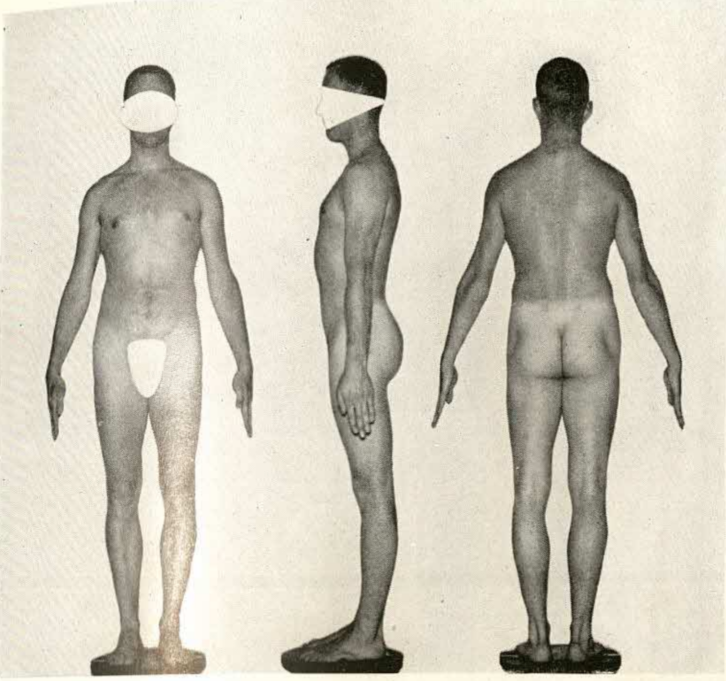


No. 464 *3 4 3* (*13*) 3 4 3–3 5 3 (3 4½ 3) 12.41 at 60
3 4½ 2½, 3 4½ 3, 3 4½ 2½, 3 4½ 3, 2½ 4½ 4

343

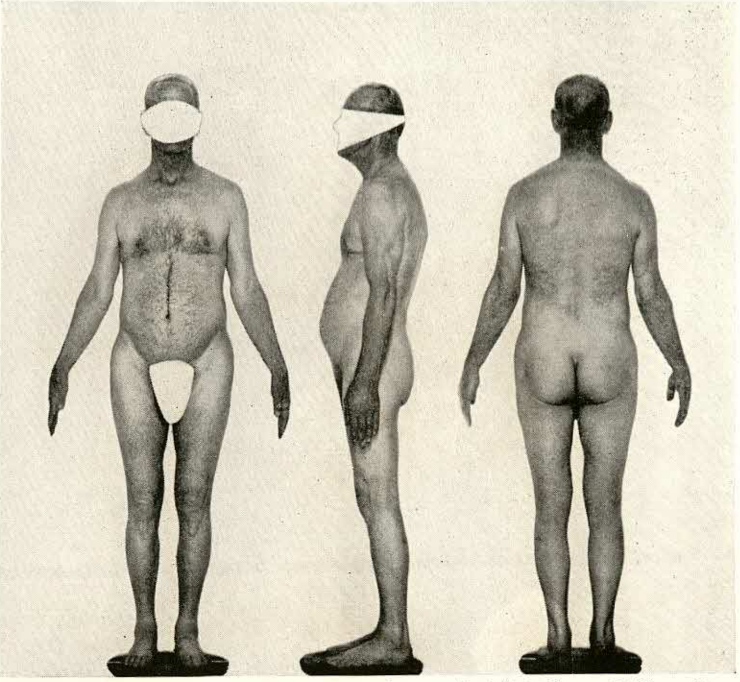


No. 465 *3 4 3* (*14*) 3 4 3–3 5 4 (3 4½ 3½) 13.01 at 23
3 4½ 3, 3 4½ 3½, 3 4 3½, 2½ 4½ 3, 2½ 4 4½

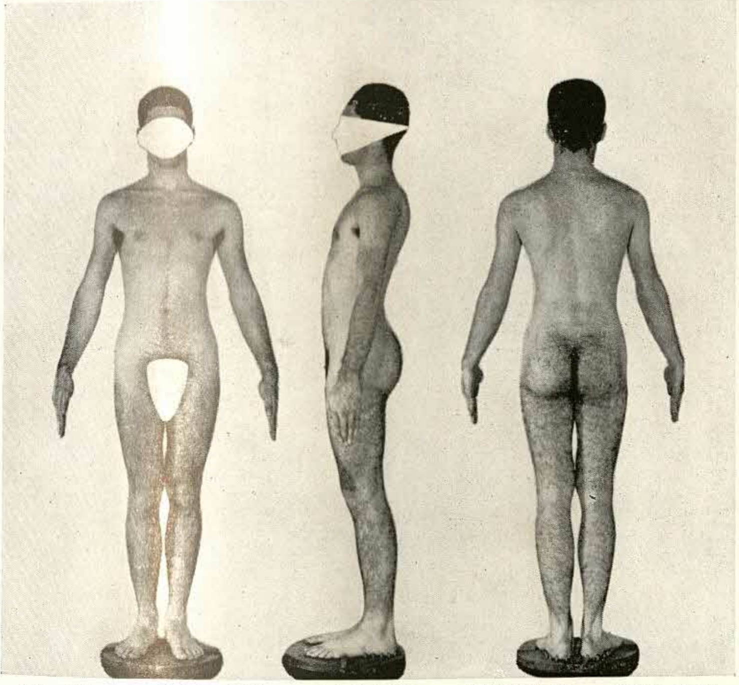


No. 466 *3 4 3* *(15)* 3 4 3–3 5 4 (3 4½ 3½) 12.79 at 31
3 4½ 3½, 3 4½ 3½, 3 4 4, 3 4½ 3½, 3 4 4

343

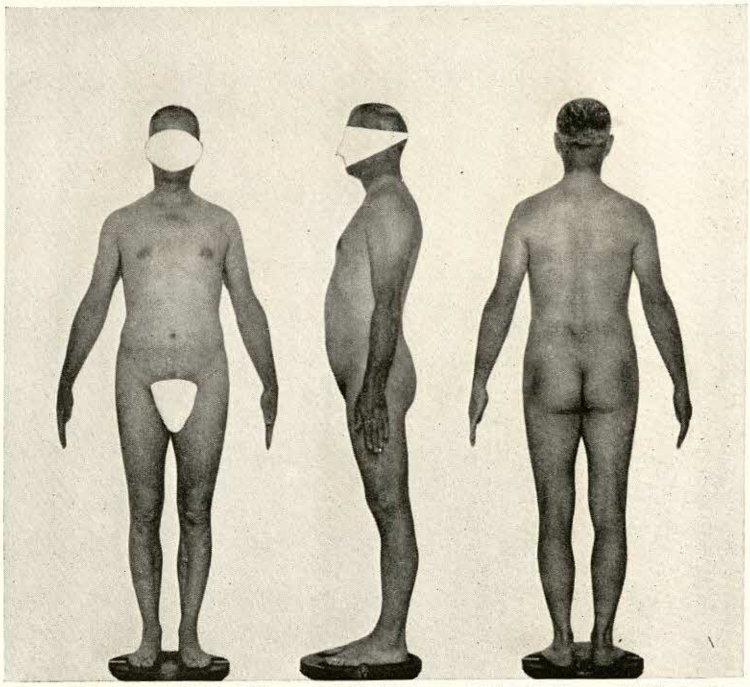


No. 467 *3 4 3* *(16)* 3 4 3–3 5 4 (3 4½ 3½) 12.49 at 61
3 5 3½, 3 4½ 3½, 2½ 5 3, 3 4½ 3, 3 4 3½

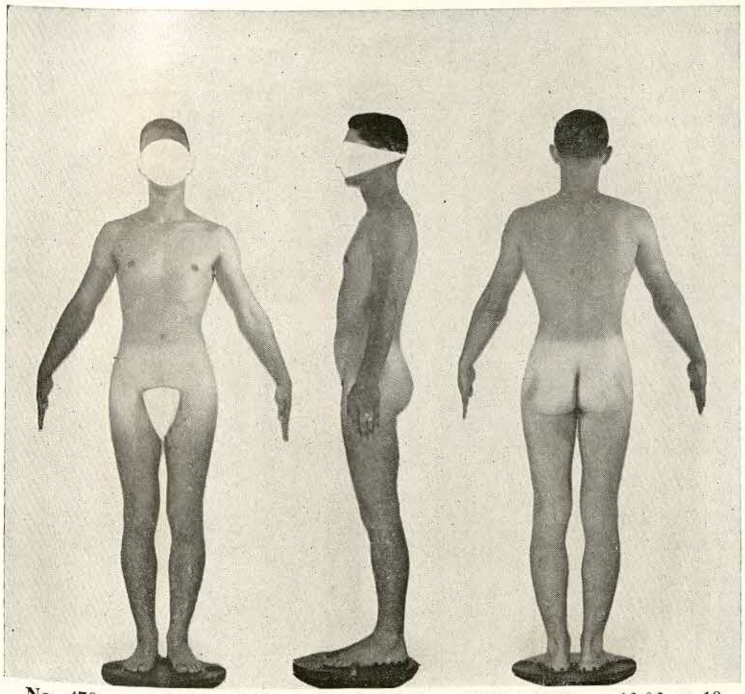


No. 468 *3 4 3* *(17)* 3 4 3–4 3 3 (3½ 3½ 3) 13.17 at 18
3½ 3½ 3, 3½ 3½ 3, 3½ 3½ 3½, 3½ 3½ 3, 4 3½ 3

343

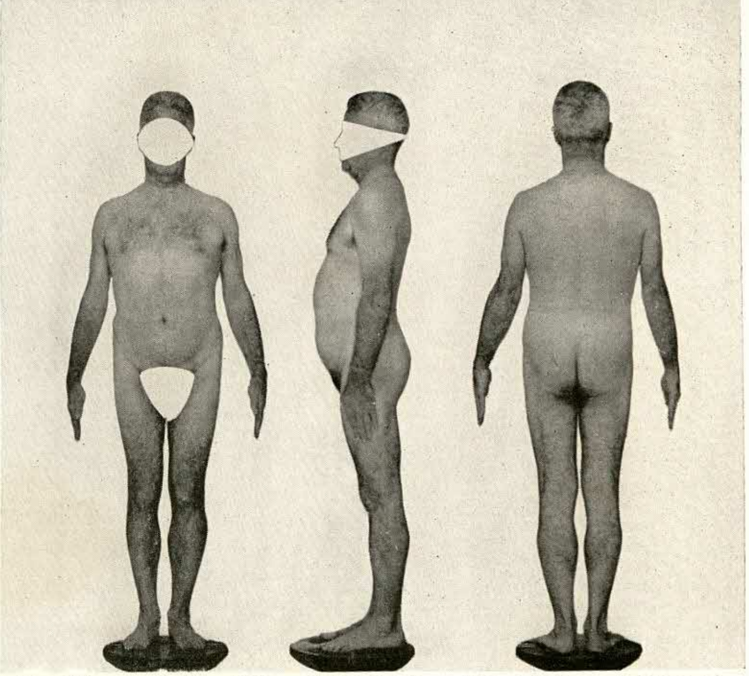


No. 469 *3 4 3* *(18)* 3 4 3–4 3 3 (3½ 3½ 3) 12.48 at 48
3½ 3½ 3, 3½ 3½ 3, 3½ 4 2½, 3½ 4 3, 3½ 3½ 3

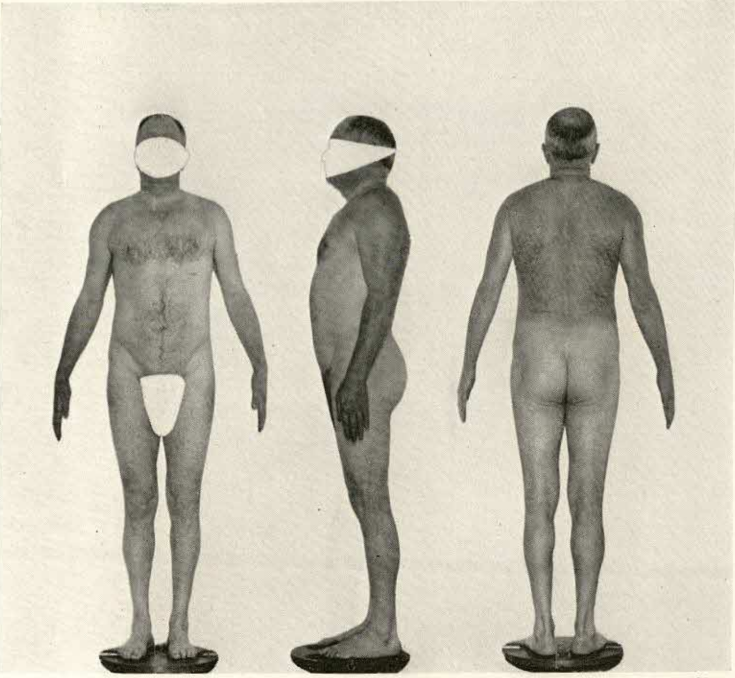


No. 470 *3 4 3* *(19)* 3 4 3–4 4 2 (3½ 4 2½) 13.03 at 19
3½ 3½ 3, 3½ 4 2½, 3½ 4½ 2½, 3½ 4 3, 3½ 4½ 2

343

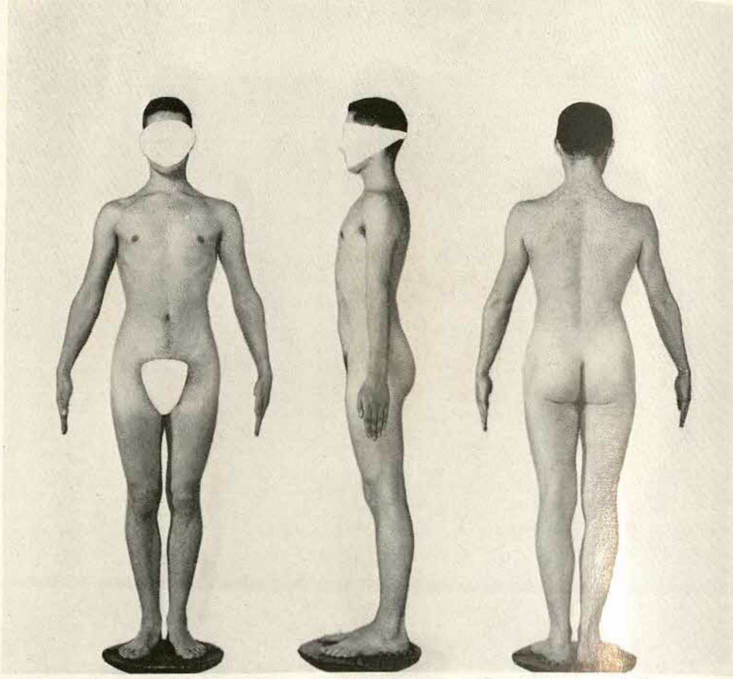


No. 471 *3 4 3* *(20)* 3 4 3–4 4 2 (3½ 4 2½) 12.27 at 46
3½ 4 2½, 3½ 4½ 2½, 3½ 4½ 2½, 3½ 4 2½, 3½ 4 2½

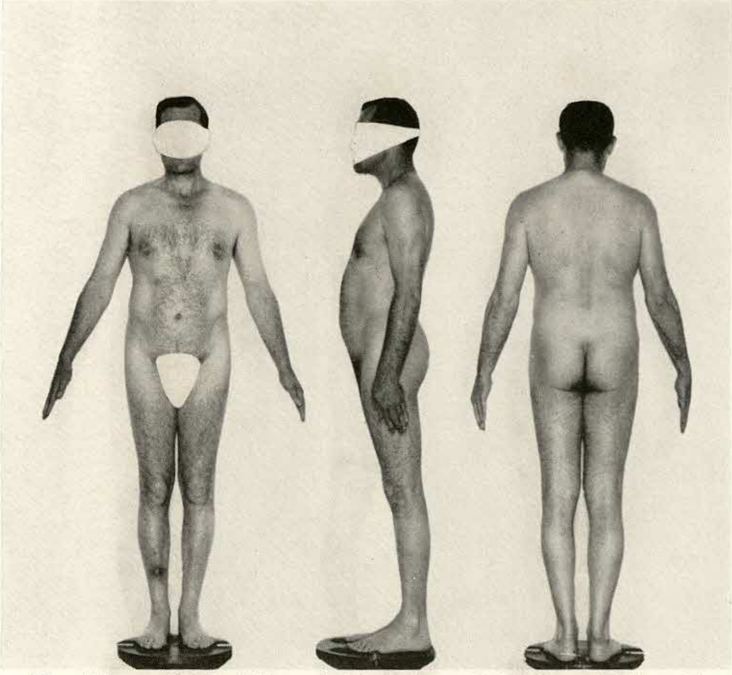


No. 472 *3 4 3* *(21)* 3 4 3–4 4 2 (3½ 4 2½) 12.22 at 60
4 4½ 2, 3½ 4½ 2, 3 4 3, 3½ 4 2½, 3 3½ 3½

343

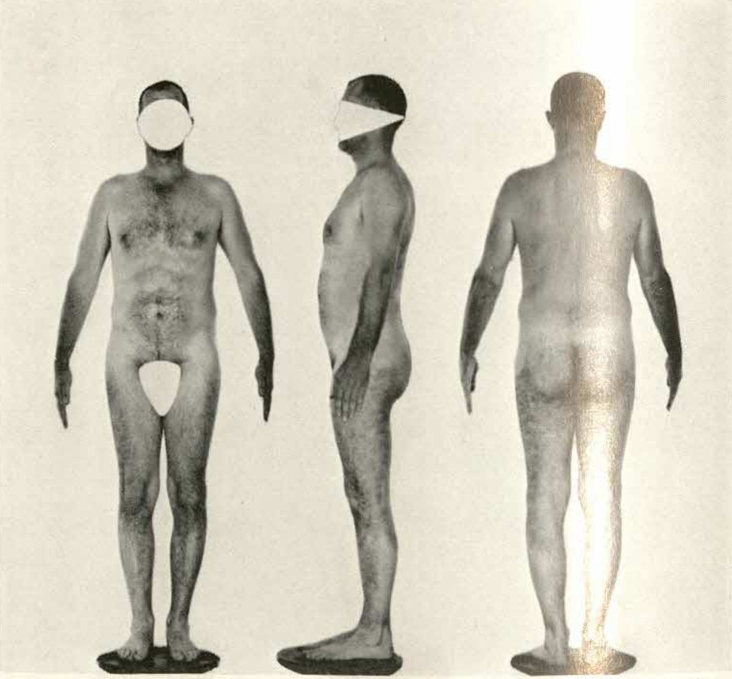


No. 473 *3 4 3* *(22)* 3 4 3–4 4 3 (3½ 4 3) 13.13 at 18
3½ 4 3, 3½ 4 3, 3½ 3½ 3½, 3½ 3½ 3½, 3½ 4 3

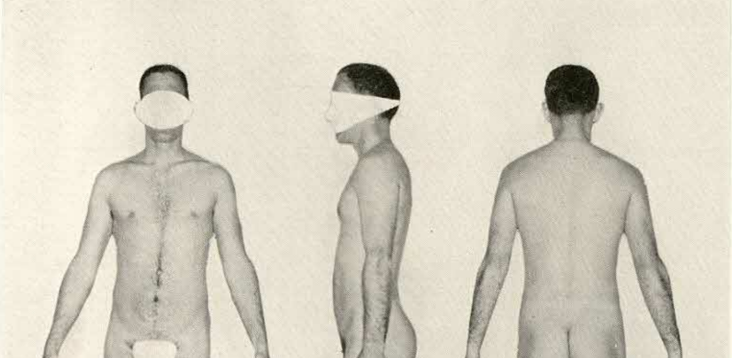


No. 474 *3 4 3* *(23)* 3 4 3–4 4 3 (3½ 4 3) 12.41 at 46
3½ 4 3, 3½ 4 3, 3½ 4 2½, 3½ 4 2½, 3½ 4 3

343

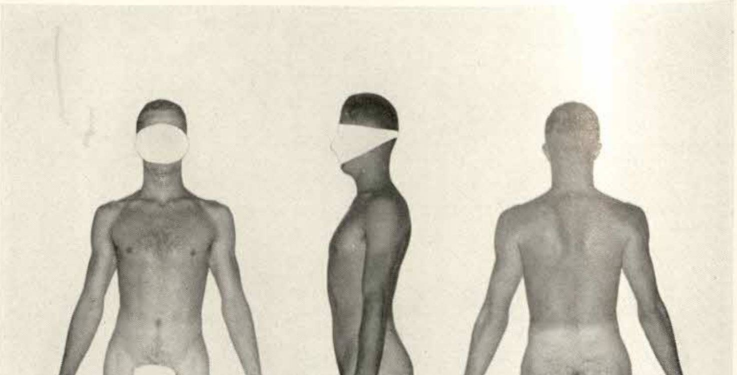


No. 475 *3 4 3* *(24)* 3 4 3–4 4 3 (3½ 4 3) 12.35 at 53
3 4 3½, 3½ 4 3, 3½ 4 2½, 3½ 4 3, 3½ 4 2½

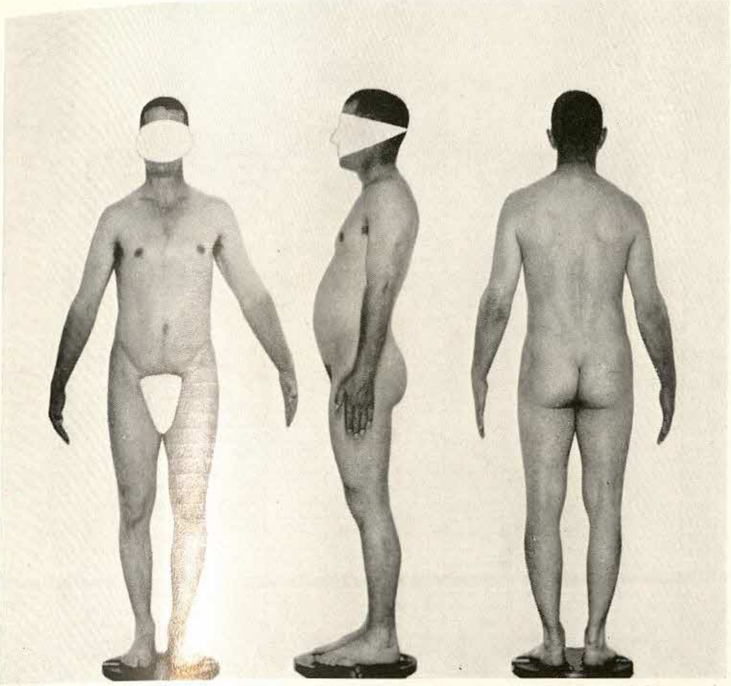


No. 476 *3 4 3* *(25)* 3 4 3–4 4 4 (3½ 4 3½) 12.92 at 25
3½ 4 3½, 3½ 4 3½, 3½ 4 3, 3½ 4 4, 3½ 4 3½

343

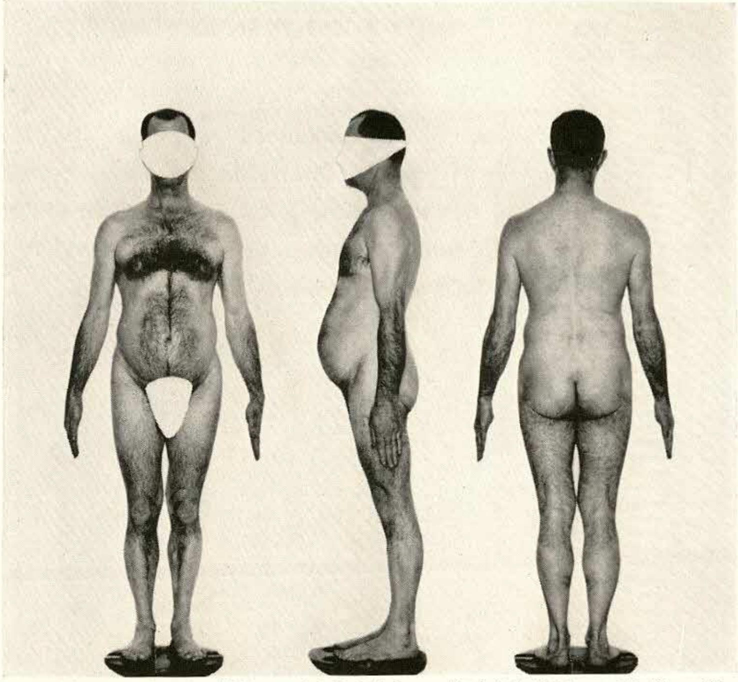


No. 477 *3 4 3* *(26)* 3 4 3–4 5 2 (3½ 4½ 2½) 12.91 at 19
3½ 4½ 2½, 3½ 4 2½, 3 4½ 2½, 3 4 3, 3½ 4 3

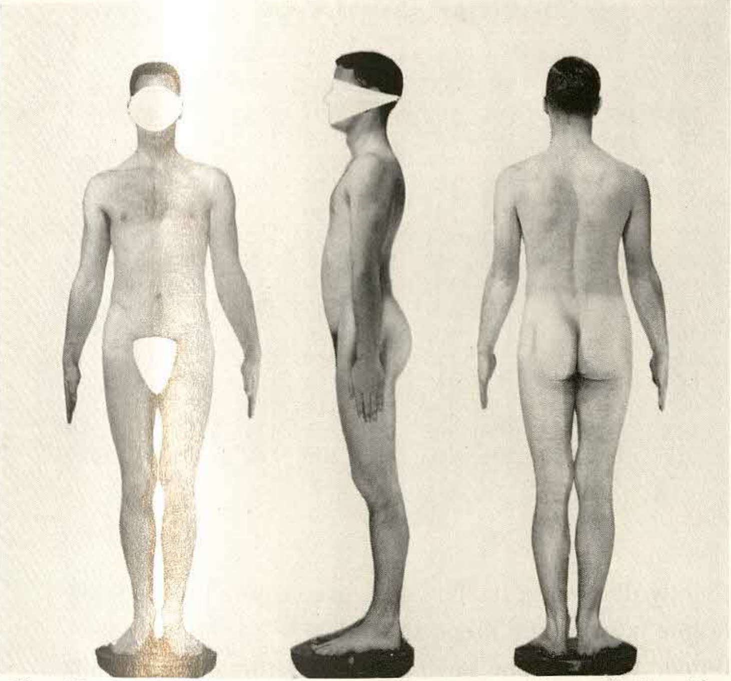


No. 478 *3 4 3* *(27)* 3 4 3–4 5 2 (3½ 4½ 2½) 12.20 at 42
3½ 4½ 2½, 3½ 4 2½, 3½ 4½ 2, 3½ 4½ 2½, 3½ 4½ 2½

343

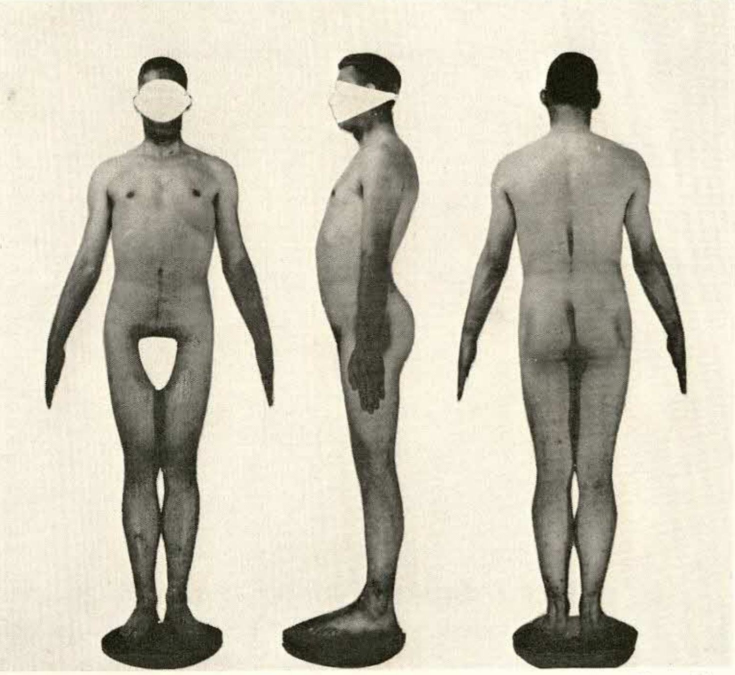


No. 479 *3 4 3* *(28)* 3 4 3–4 5 2 (3½ 4½ 2½) 12.08 at 52
3½ 4½ 3, 3½ 4½ 2½, 3 4½ 3, 3½ 4½ 2, 3 4½ 2½

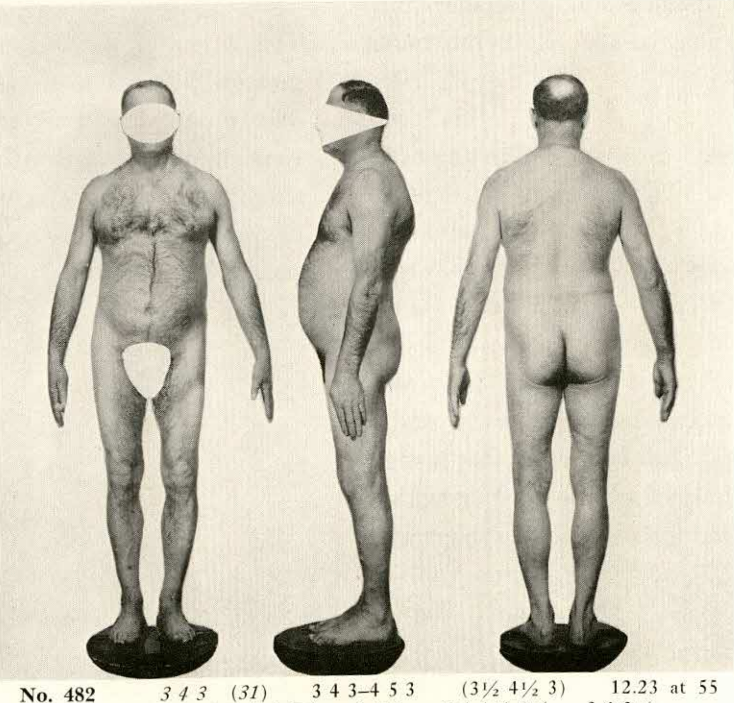


No. 480 *3 4 3* *(29)* 3 4 3–4 5 3 (3½ 4½ 3) 12.88 at 22
3½ 4½ 3, 3½ 4 3, 4 5 2, 3½ 4 3, 3½ 4½ 3

343

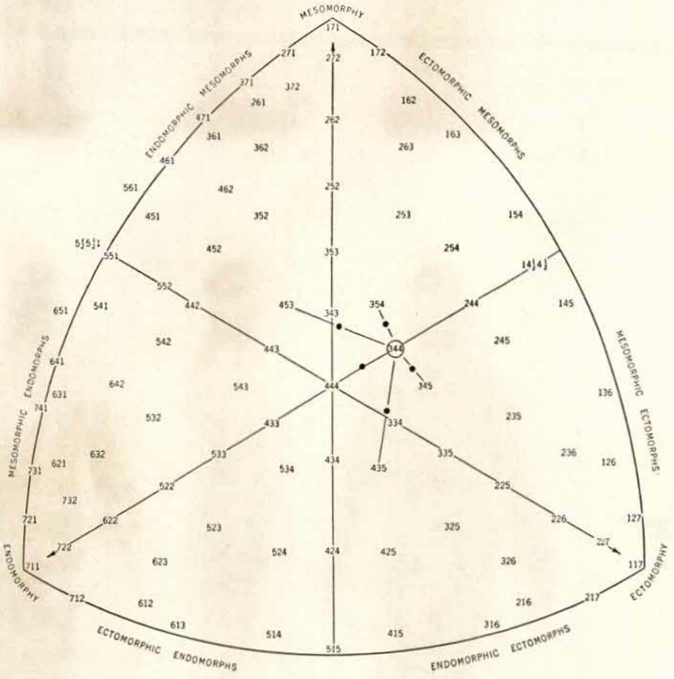


No. 481 *3 4 3* *(30)* 3 4 3–4 5 3 (3½ 4½ 3) 12.50 at 35
3½ 4 3½, 3½ 4½ 3, 3 4½ 2½, 3½ 4½ 3, 3½ 4½ 3½

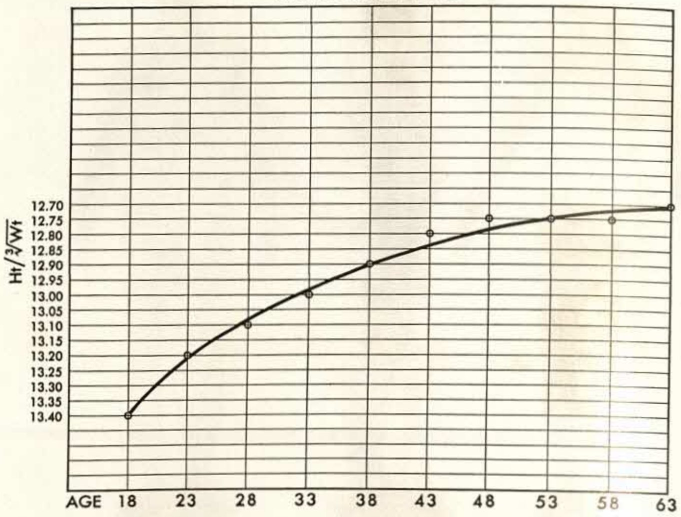


No. 482 *3 4 3* *(31)* 3 4 3–4 5 3 (3½ 4½ 3) 12.23 at 55
3½ 5 2½, 3½ 4½ 3½, 3 4 3, 3½ 4½ 2½, 3 4 3½

Somatotype 3 4 4 *(Balanced midrange mesomorph-ectomorph, 11-level.) Pointers. Slender, well-proportioned bird dogs, staunch on the point and sensitive to control. Eager, wide-ranging hunters, yet durable enough to stand a full day in bramble country. Nos. 483–497.*



SOMATOTYPE 344



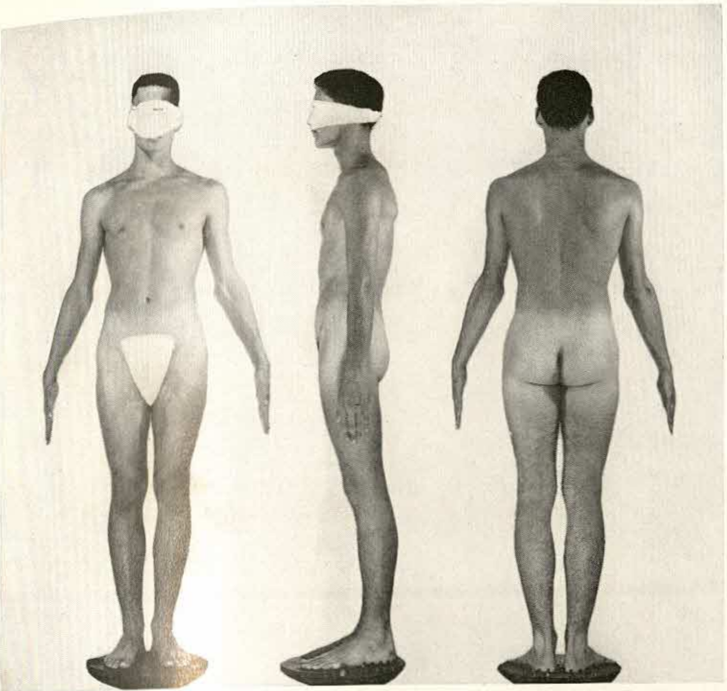
Weight for Age and Height

Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	175	183	188	192	196	200	202	203	204	205
74	168	176	180	185	189	192	194	195	195	197
73	162	169	173	178	181	184	187	187	188	189
72	155	162	166	170	173	176	179	179	180	181
71	148	155	159	163	167	169	172	172	173	174
70	142	149	153	157	160	163	165	165	166	167
69	137	143	147	150	153	156	158	159	159	160
68	131	137	140	144	147	149	151	152	152	153
67	125	131	134	137	140	143	144	145	146	146
66	119	125	128	131	134	136	138	138	139	140
65	114	119	122	125	128	130	132	132	133	133
64	109	114	117	119	122	124	126	126	127	127
63	104	109	111	114	116	118	120	120	121	121
62	99	103	106	109	111	113	114	115	115	116
61	94	99	101	103	105	108	109	109	110	110

Rarity 1. Incidence 57 per thousand. Second commonest somatotype, and the commonest in the colleges. Probably one of the longest lived somatotypes. For a 3 4 4 of short stature and good constitutional endowment, and of reasonable dietary and personal habits, eight or even nine decades may be a more accurate quota for life than seven.

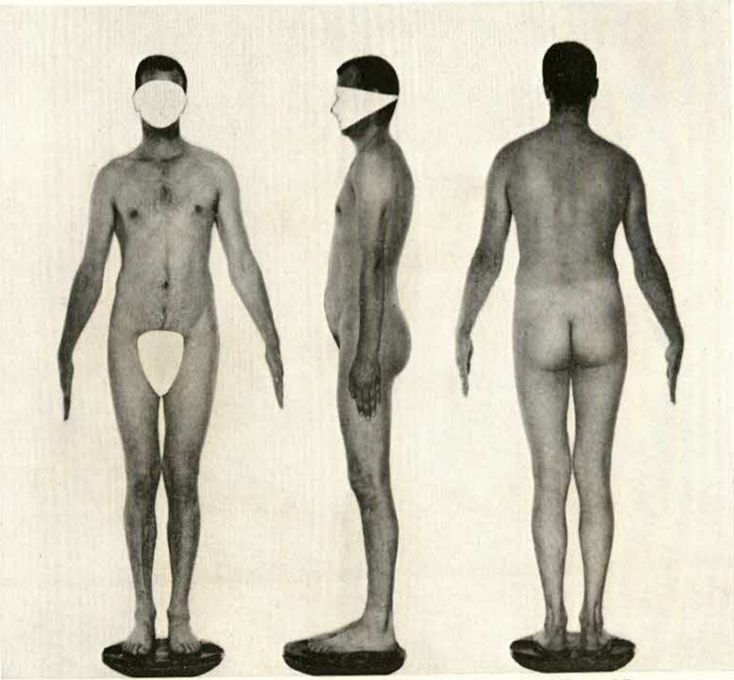
3 4 4's, being near the mean in all their dimensions of contact with life, are especially prone to the danger of conflict arising from ambitions in too many directions. If gifted with good coördination, as they often are, they tend to get embroiled in minor athletics and may aspire far beyond their reach along that front. Sometimes a 3 4 4, aware of this danger, will overreact against it. Thus a onetime youthful president of a midwest university, and a fine 3 4 4, eagerly helped abolish football at that institution and has always been fond of advising people against exercise. Under different circumstances, and perhaps with slightly different gifts, he might have aspired to be a big league pitcher, and might then have been seriously frustrated. We see how environment continually conspires with constitutional endowment to shape men's destinies.

This is one of the somatotypes that would present the greatest difficulty to a personnel man or vocational guidance expert. For if we take into account the factor of compensatory overdevelopment where already *some* strength exists, there is virtually no field of human endeavor, except perhaps bodily contact athletics, where some 3 4 4's might not achieve a degree of distinction.

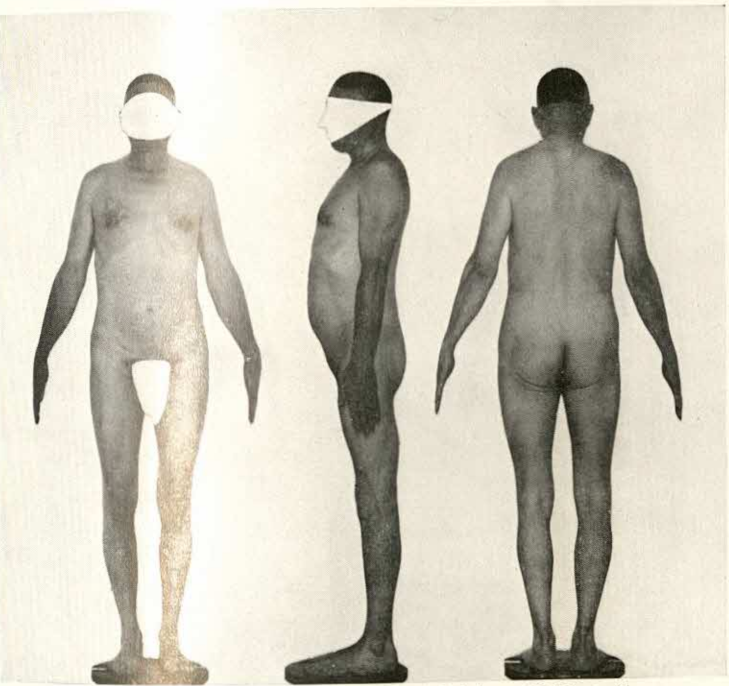


No. 483 *3 4 4* (*1*) 3 4 4–3 4 4 13.42 at 17
3 4 4, 3 4 4, 3 3½ 4, 3 3½ 4, 3½ 4 3½

344

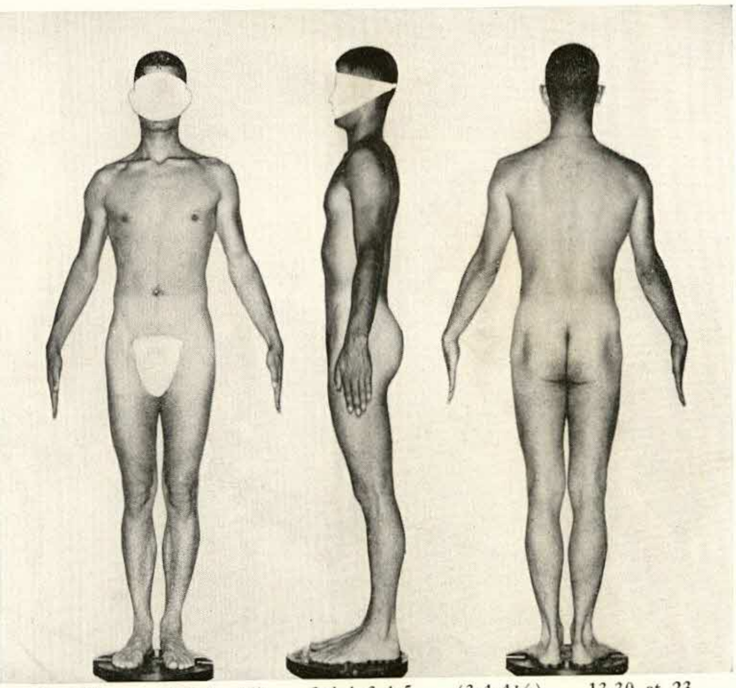


No. 484 *3 4 4* (*2*) 3 4 4–3 4 4 12.93 at 37
3½ 4 3½, 3 4 4, 3 3½ 4, 3 4 4, 3 4 4½

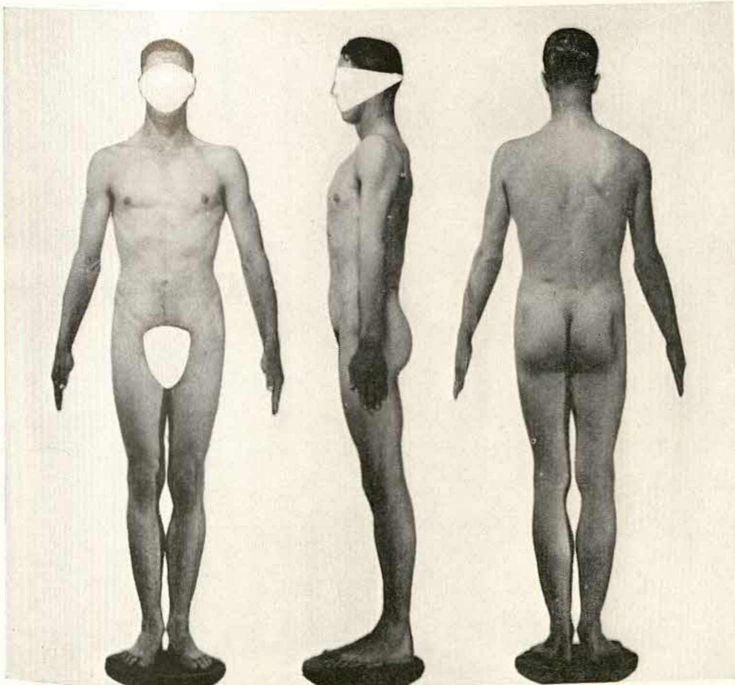


No. 485 *3 4 4* (*3*) 3 4 4–3 4 4 12.71 at 61
3 4 4, 3 3½ 4, 3 4½ 3, 3½ 3½ 4, 3½ 3½ 4½

344

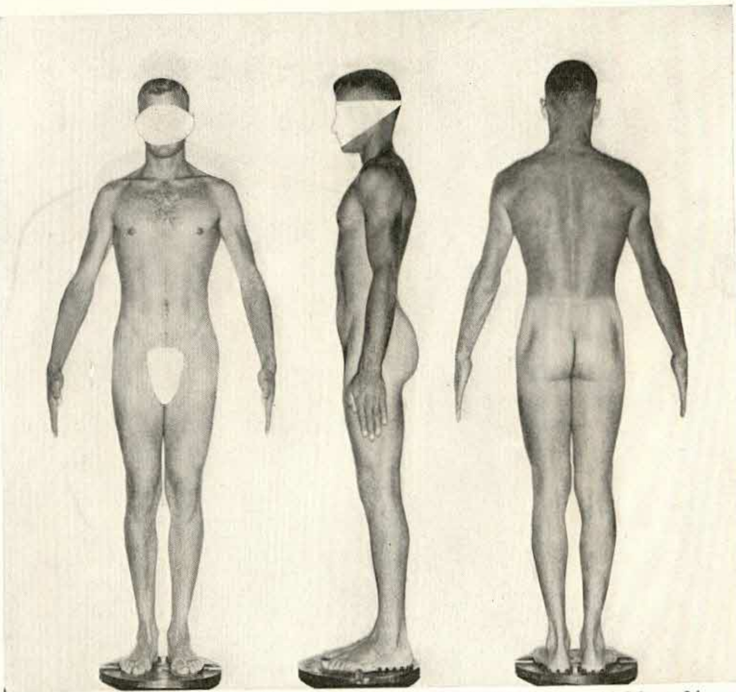


No. 486 *3 4 4* (*4*) 3 4 4–3 4 5 (3 4 4½) 13.30 at 23
3 4 4½, 3 4 4½, 3 4½ 4, 3 4 4½, 3 4½ 4½

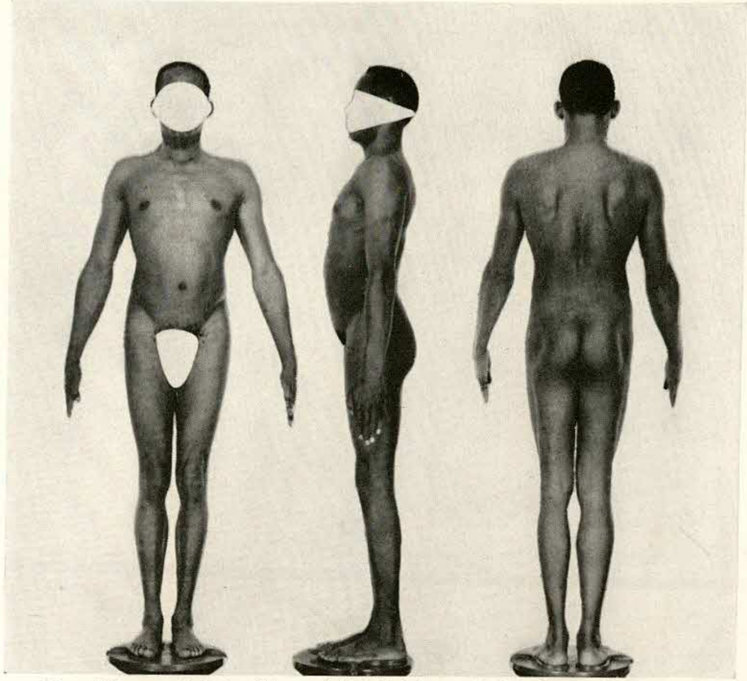


No. 487 *3 4 4* (*5*) 3 4 4–3 4 5 (3 4 4½) 13.21 at 28
3 4 4½, 2½ 4 4½, 2½ 4 4, 3 4 4½, 3 4 4½

344

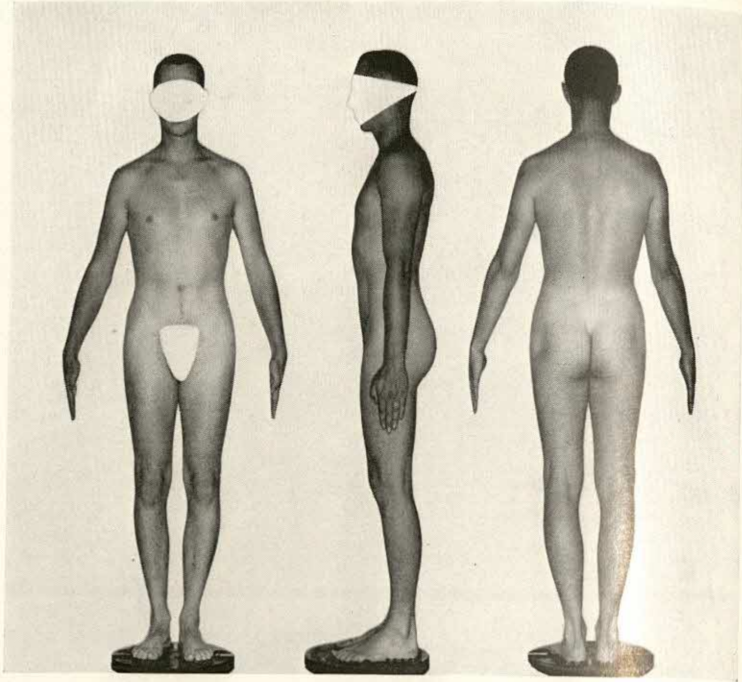


No. 488 *3 4 4* (*6*) 3 4 4–3 5 4 (3 4½ 4) 13.06 at 24
3 4½ 4, 3 4½ 4, 3 4 3½, 3 4½ 4, 3½ 4½ 4

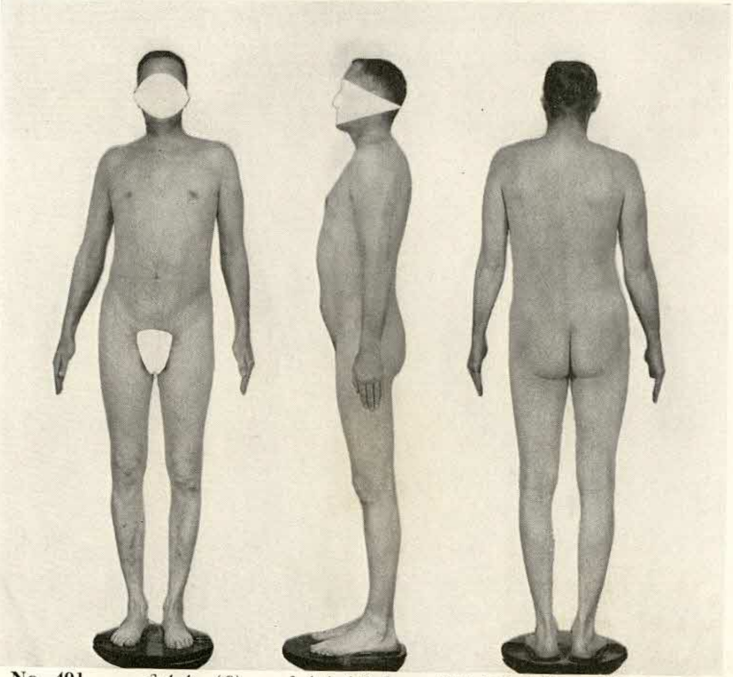


No. 489 *3 4 4* (*7*) 3 4 4–3 5 4 (3 4½ 4) 12.80 at 36
3 4½ 4, 3 5 4, 3 5 4, 3 5 3½, 3 4 5

344

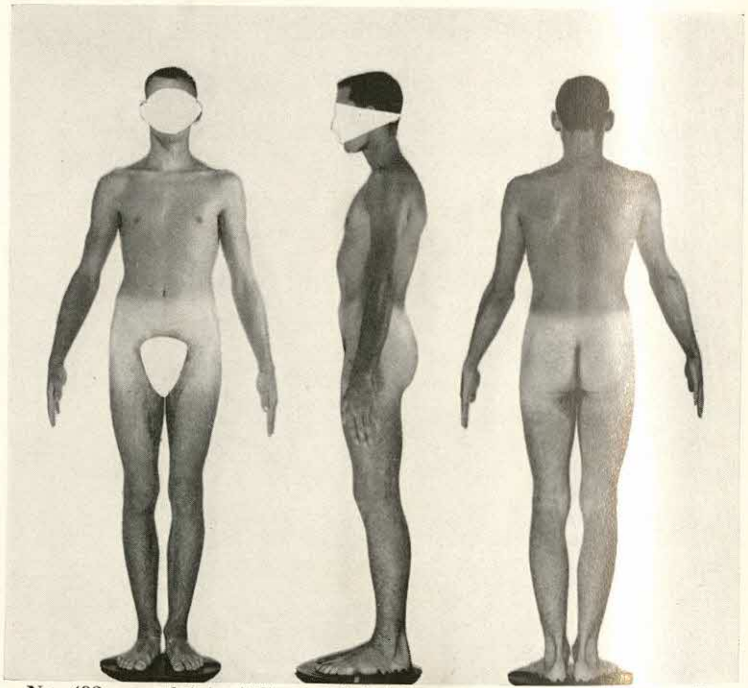


No. 490 *3 4 4* (*8*) 3 4 4–4 3 5 (3½ 3½ 4½) 13.30 at 21
3½ 3½ 4½, 3½ 3½ 4½, 3½ 3½ 4½, 3½ 3½ 4½, 3½ 4 4½

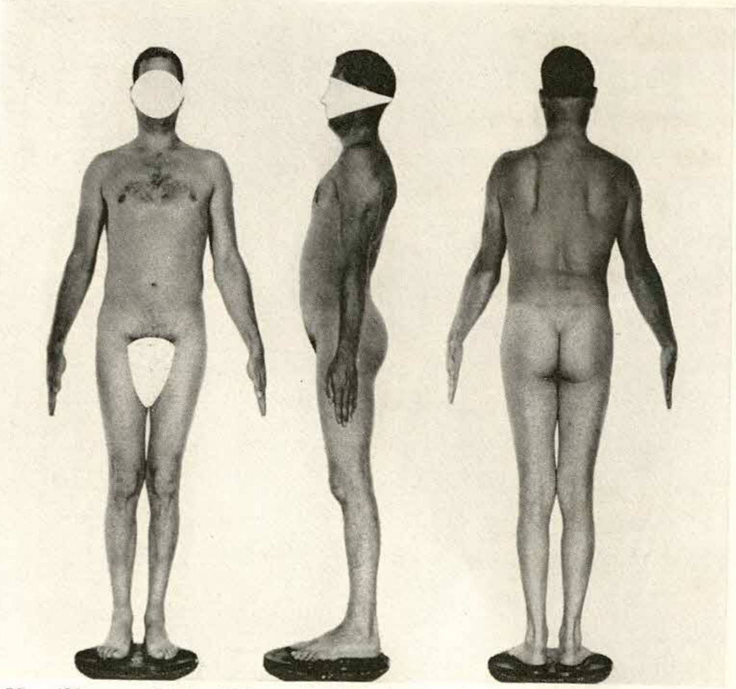


No. 491 *3 4 4* (*9*) 3 4 4–4 3 5 (3½ 3½ 4½) 12.88 at 42
3½ 3½ 4, 3½ 4 4½, 3½ 3 4, 3½ 3½ 4½, 3½ 3½ 4½

344

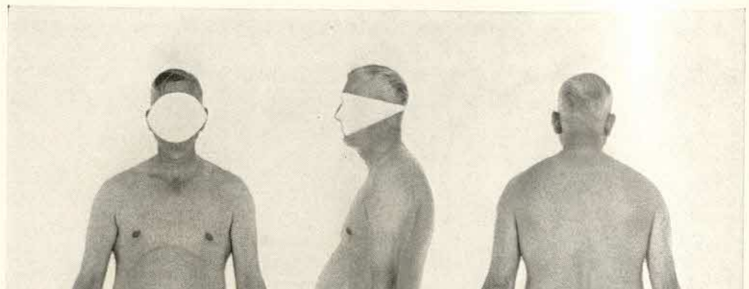


No. 492 *3 4 4* (*10*) 3 4 4–4 4 4 (3½ 4 4) 13.29 at 18
3 4 4, 3½ 4 4, 3½ 4 4, 3½ 4 4, 3½ 4½ 3½



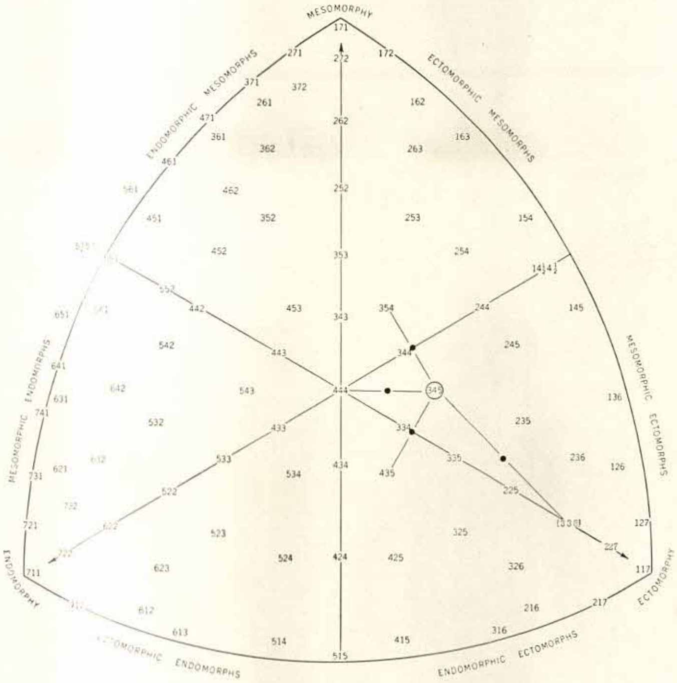
No. 493 *3 4 4* (*11*) 3 4 4–4 4 4 (3½ 4 4) 12.87 at 33
3½ 4 4, 3½ 4 4, 3½ 4 4, 3½ 4½ 3½, 3½ 4 4½

344

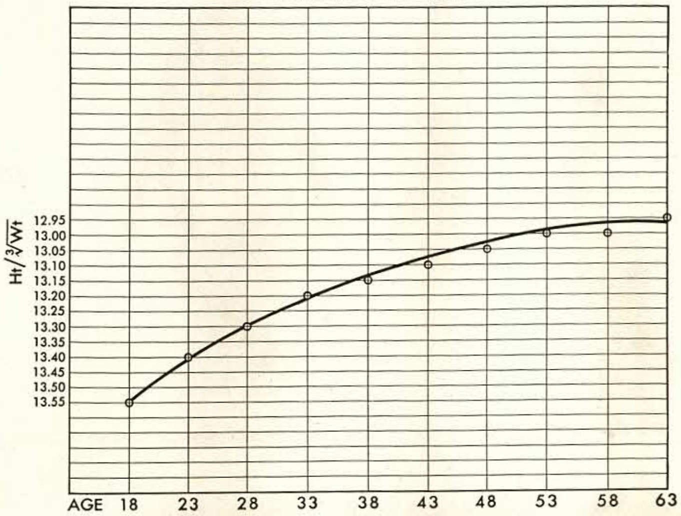


No. 494 *3 4 4* (*12*) 3 4 4–4 4 4 (3½ 4 4) 12.54 at 65
3½ 4 4, 3½ 4½ 4, 3½ 3½ 4, 3½ 4½ 3½, 3 4 3½

Somatotype 3 4 5 *(Mesomorphic ectomorphy, 12-level.) Setters, particularly Irish setters. Bird dogs who are more ectomorphic than pointers. More fragile, more delicate boned. Higher spirited, keener nosed and more temperamental. Longer haired and less sturdy, they stand rough country poorly. Nos. 498–506.*



SOMATOTYPE 345



Weight for Age and Height

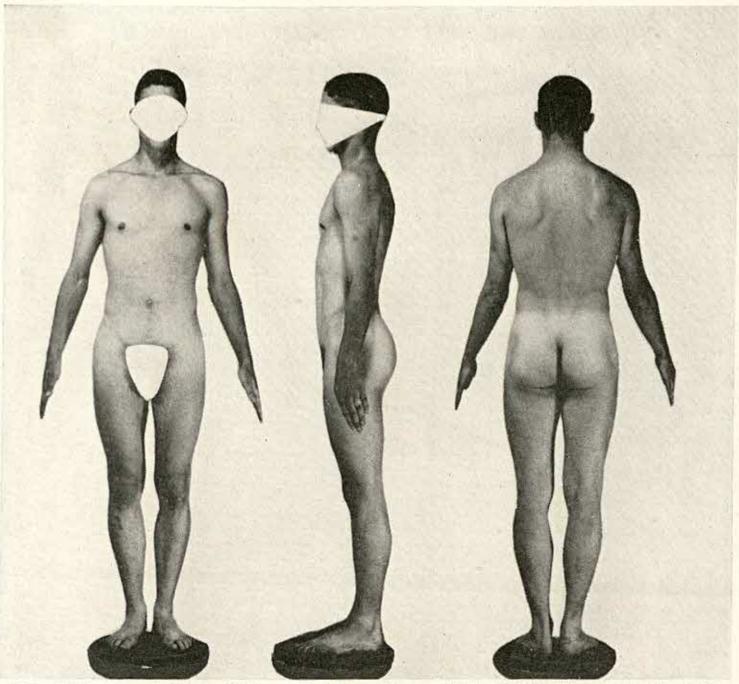
Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	169	174	179	182	186	188	190	192	192	193
74	162	168	172	175	178	180	182	184	185	186
73	156	161	165	168	171	173	175	177	178	179
72	150	155	159	162	165	167	169	170	171	172
71	143	148	152	155	157	159	161	163	163	164
70	137	142	146	148	151	153	155	156	157	158
69	131	136	140	142	145	147	148	150	150	151
68	126	130	134	136	139	140	142	143	144	145
67	120	124	128	130	132	134	136	137	137	138
66	115	119	122	124	126	128	129	131	131	132
65	109	113	116	119	121	122	124	125	125	126
64	104	108	111	113	115	117	118	119	119	120
63	100	103	106	108	110	111	113	114	114	115
62	95	99	101	103	105	106	108	108	109	109
61	90	94	96	98	100	101	102	103	103	104

Rarity 2. Incidence 27 per thousand. This and its permutant the 3 5 4 are two more of our long lived somatotypes. Also these will be our first somatotypes that reach the level of the 12-total in the three primary components. Longevity, at least in its middle reaches, seems to be associated with the East and Northeast, or with low endomorphy in the presence of nearly balanced strength in the other two components. We have noted that there appears also to be some negative association between longevity and stature, but this tendency may be a weaker one than the positive association with the Northeast, since both the 3 4 5 and the 3 5 4, for instance, are often of tall stature.

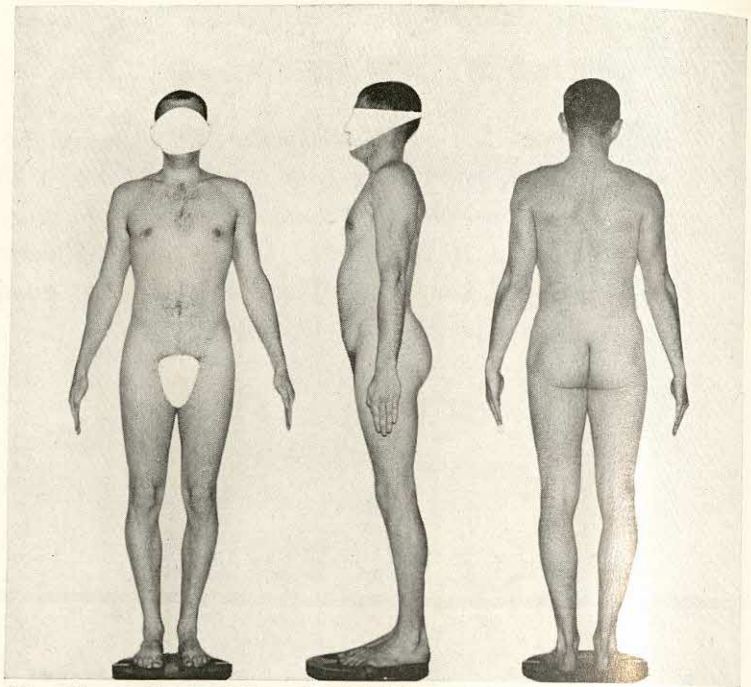
The nutrition curves of the 3 4 4, 3 4 5 and 3 5 4 indicate that average examples of these three somatotypes are still gaining weight in their sixties, and may not yet have reached the leveling off point. Since this is true of no other somatotypes it might be an indication that these three are among the longest lived of all. But the simple speculation is as far as the data of this pilot study will take us. The definitive answer must await expenditure of the time and expense required for longitudinal studies that can be planned to follow a good sample of individuals through their entire lives.

In the sample of 562 schizophrenic male patients at Elgin State Hospital in which we found 26 2 2 5's (see p. 75) there were only eleven 3 4 5's. Since the normal expectancy of 3 4 5's in a sample of 562 men would be about 15 or 16, here is one indication that the 3 4 5 may be no more common on the schizophrenic wards than in the general population. If so, he is probably the only ectomorph of whom that would be true.

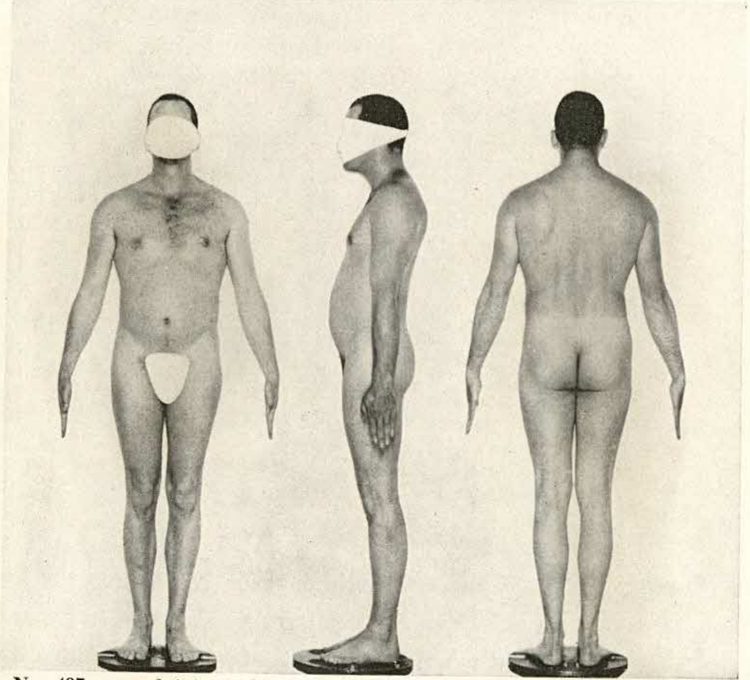
344



No. 495 *3 4 4* (*13*) 3 4 4–4 5 3 (3½ 4½ 3½) 13.07 at 20
3½ 4 4, 3½ 4½ 3½, 3½ 4 4, 3½ 4½ 3½, 3½ 4½ 3

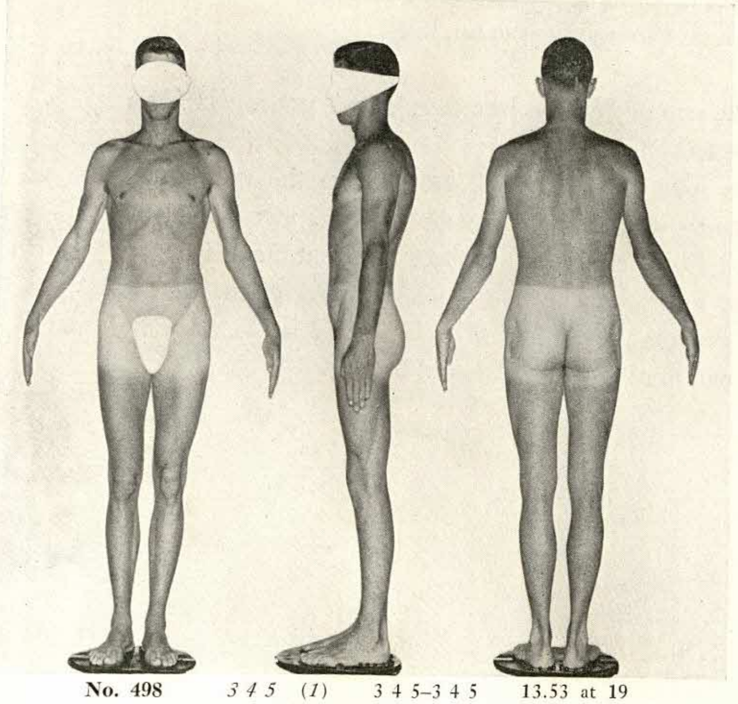


No. 496 *3 4 4* (*14*) 3 4 4–4 5 3 (3½ 4½ 3½) 12.80 at 27
3½ 4 3, 3½ 4½ 3½, 3½ 4½ 3½, 3½ 4½ 3, 3½ 4 4

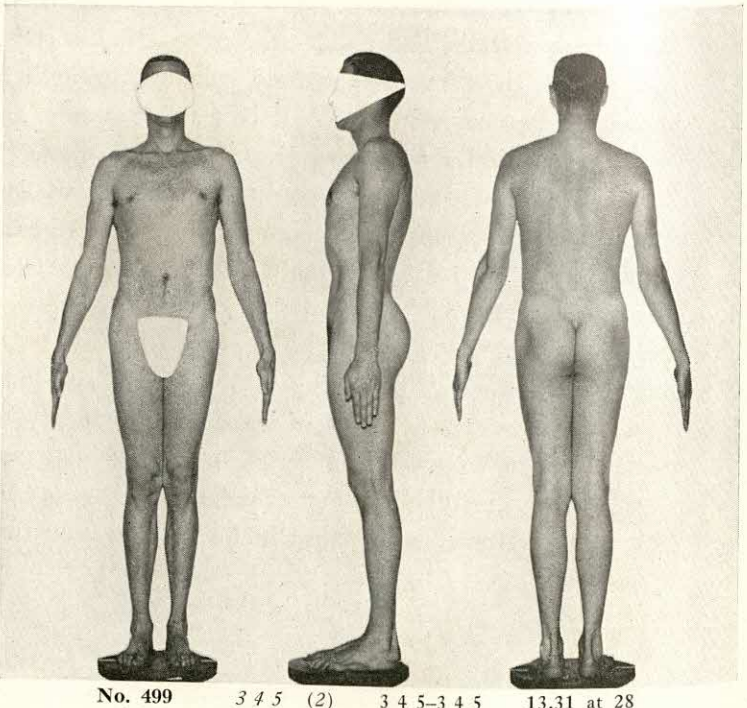


No. 497 *3 4 4* (*15*) 3 4 4–4 5 3 (3½ 4½ 3½) 12.47 at 38
3½ 4 3½, 3 5 3½, 3½ 5 3, 3½ 4½ 3, 3 4½ 4

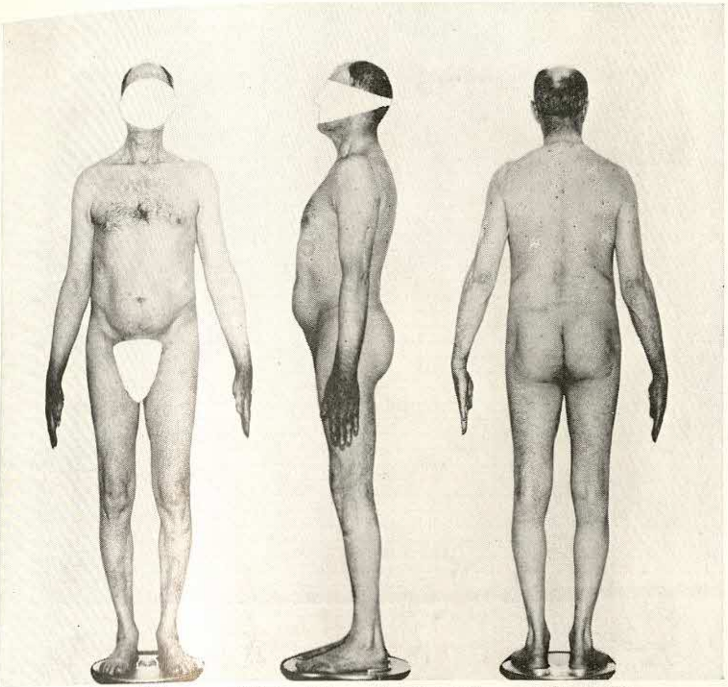
345



No. 498 *3 4 5* (*1*) 3 4 5–3 4 5 13.53 at 19
3 4 5, 3 4 5, 3 4 5, 3 4 5, 3 4 5

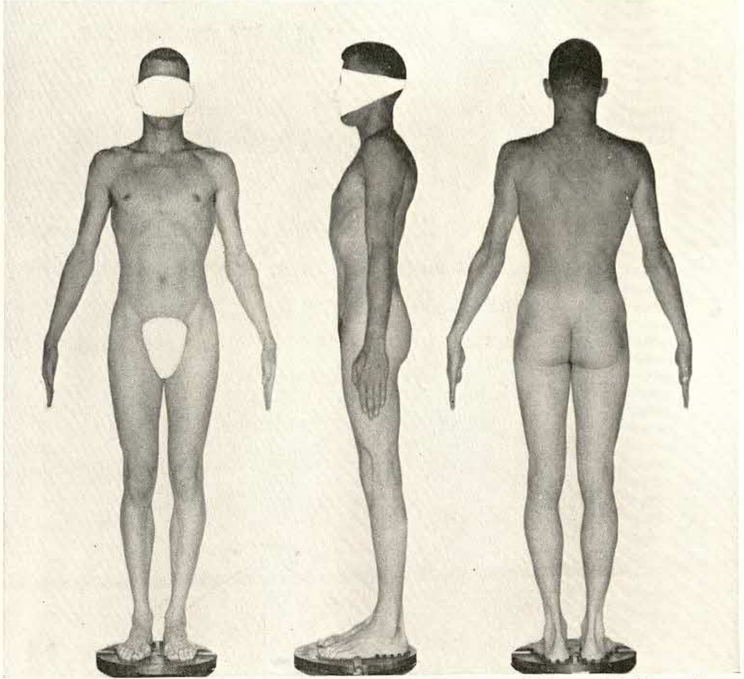


No. 499 *3 4 5* (*2*) 3 4 5–3 4 5 13.31 at 28
3 3½ 4½, 3 4 4½, 3 4 5, 3 4 5, 3½ 3½ 5

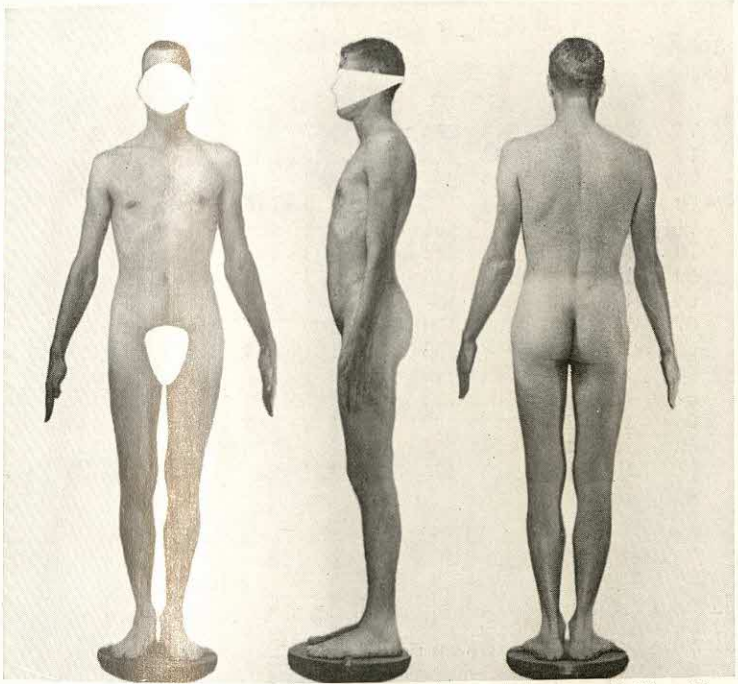


No. 500 *3 4 5* (*3*) 3 4 5–3 4 5 12.94 at 70
3 3½ 5, 3 4 5, 3 4 4½, 3½ 4 4½, 3 3½ 5

345

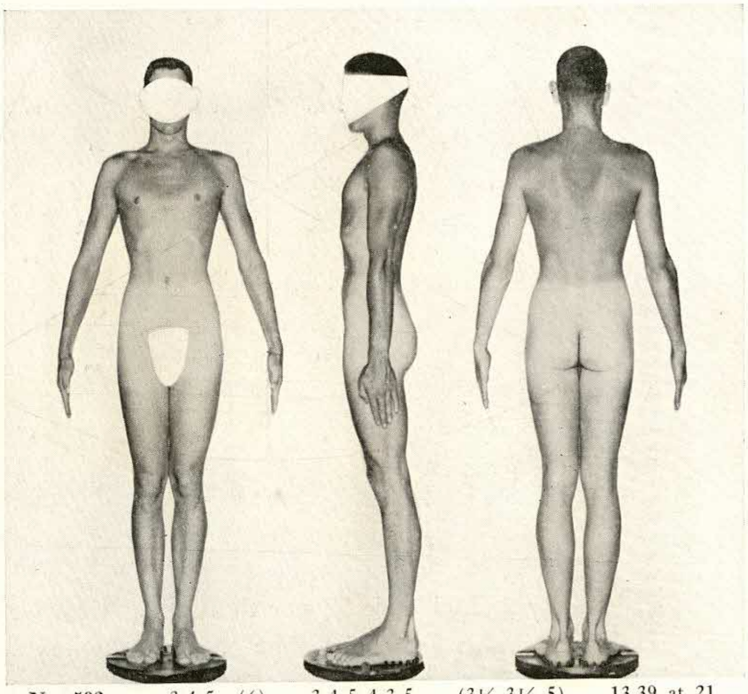


No. 501 *3 4 5* (*4*) 3 4 5–3 3 6 (3 3½ 5½) 13.57 at 21
2½ 4 5, 3 3½ 5½, 2½ 3½ 5½, 3 3 5, 3 3½ 5½

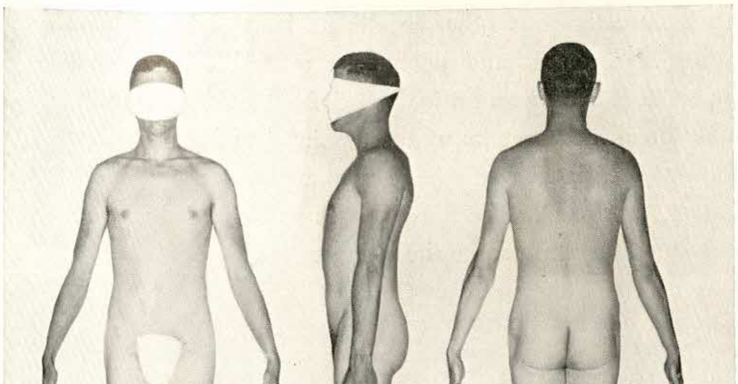


No. 502 *3 4 5* (*5*) 3 4 5–3 5 4 (3 4½ 4½) 13.20 at 23
3 4½ 4½, 3 4 4½, 3 4 5, 3 4½ 4, 3½ 4½ 4

345

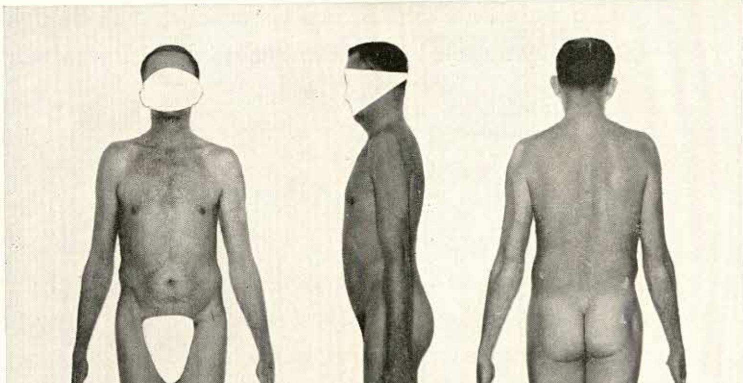


No. 503 *3 4 5* (*6*) 3 4 5–4 3 5 (3½ 3½ 5) 13.39 at 21
3½ 3½ 5, 3½ 3½ 5, 3 4 5, 3½ 3 5½, 4 3½ 4½



No. 504 *3 4 5* (*7*) 3 4 5–4 3 5 (3½ 3½ 5) 13.25 at 28
4 3½ 4½, 3½ 4 4½, 3½ 3½ 5, 3½ 3½ 4½, 3½ 3 5½

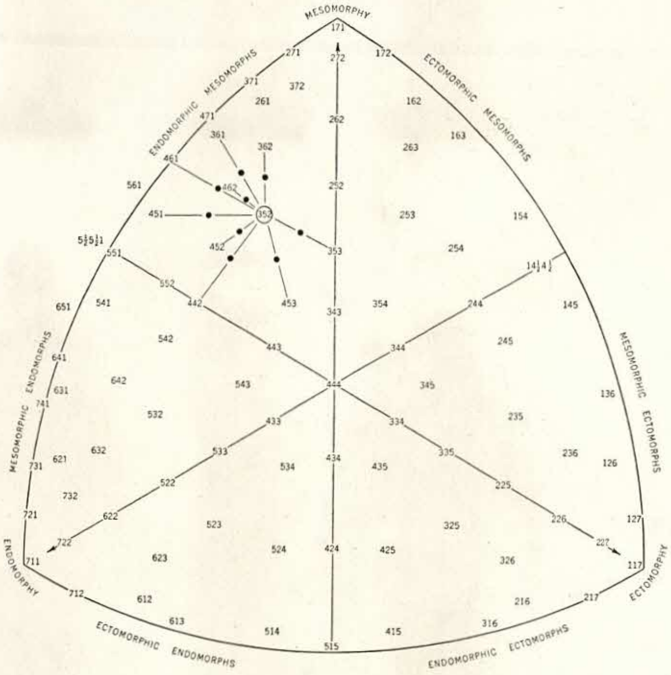
345

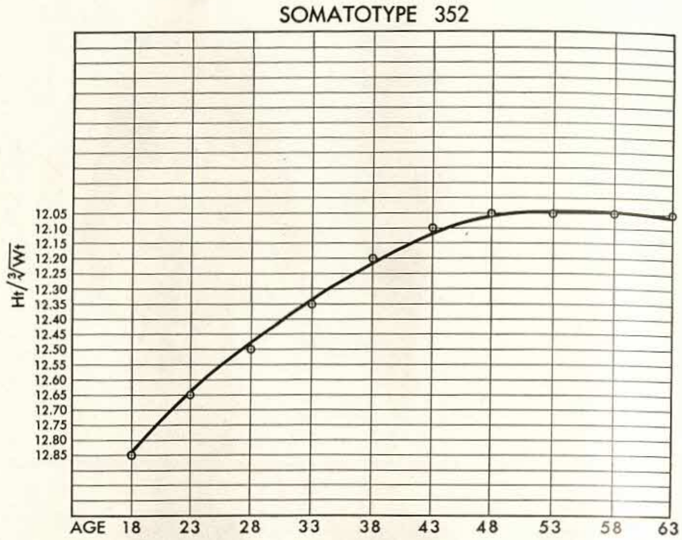


No. 505 *3 4 5* (*8*) 3 4 5–4 3 5 (3½ 3½ 5) 13.05 at 40
4 3 5, 3½ 3½ 5, 3½ 3 5, 3½ 3½ 5, 3½ 3½ 5

19. HORSES

Somatotype 3 5 2 *(Endomorphic mesomorphy, 10-level.) Little horses. Ponies, burros. Sturdy, sure-footed haybumers, built close to the ground, more for security than for speed, and dependable in rough country. Nos. 507–544.*





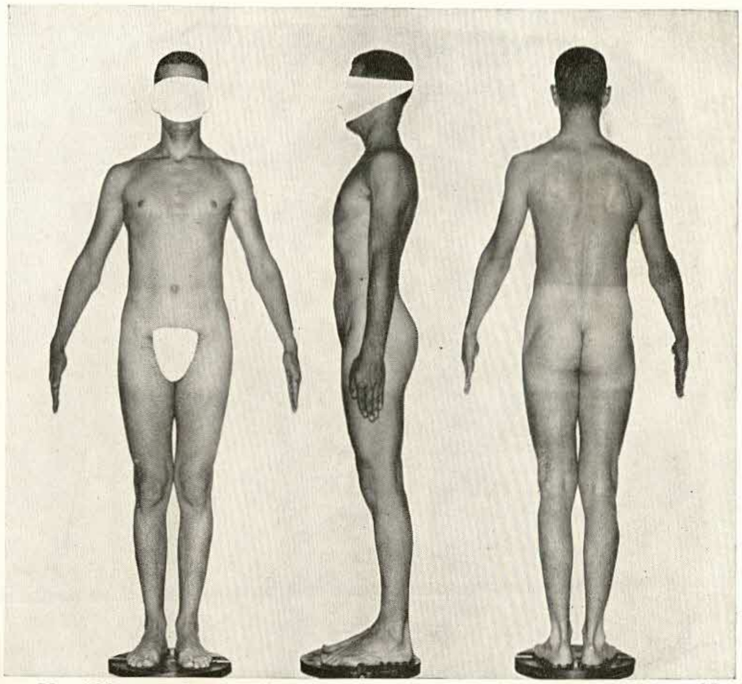
Weight for Age and Height

Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	200	210	218	224	232	237	241	241	241	241
74	191	201	208	215	222	227	231	231	231	231
73	184	193	200	207	214	218	222	222	222	222
72	177	186	192	199	206	210	214	214	214	214
71	170	178	185	191	198	202	206	206	206	206
70	162	170	177	182	189	193	196	196	196	196
69	156	163	169	175	181	185	188	188	188	188
68	149	156	162	168	173	177	180	180	180	180
67	142	149	155	160	166	169	172	172	172	172
66	136	142	148	153	158	161	165	165	165	165
65	130	136	141	146	151	154	157	157	157	157
64	124	130	134	139	144	147	150	150	150	150
63	118	124	128	133	137	140	143	143	143	143
62	113	118	122	127	131	134	136	137	137	137
61	107	113	116	121	125	127	130	130	130	130

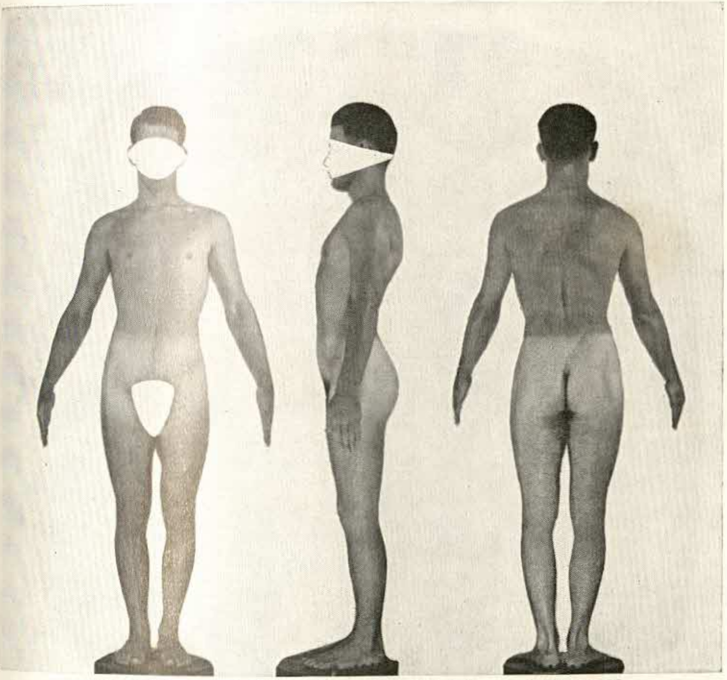
Rarity 2. Incidence 28 per thousand. Here we meet endomorphic mesomorphy for the first time, except for the great cat somatotypes. Endomorphic mesomorphy lives in a world far removed from the brittle Northeast. To watch a 3 5 2 is to relax a little, even though he is heavily muscled and if aroused might kick your ribs in.

This somatotype is on the edge of the territory of the massive, heavy people. These seem less urgently carnivorous than the Northeasterners, and they have longer digestive tracts (see VHP, p. 33) which seemingly can better handle food less close to the proteins of our own bodies. Endomorphic mesomorphs tend to grow fat and ponderous as a sort of hobby when given an opportunity.

At five feet ten inches a 3 5 2 averages about 162 pounds as a young adult, reaches 196 in his late forties after a fairly steady climb, and tends to stay at about that level for the next fifteen years. He occasionally gets much heavier, somewhere along the line, and when he does that he doubtless throws a dangerous strain on his cardiovascular system. If it happens to be an excellent system it may carry the load into old age, perhaps along with such miscellaneous other insults as heavy use of toxic drugs like tobacco and alcohol, irregular life habits and so on. If it is only an ordinary 3 5 2 system it will probably break down at its weakest point (its *locus minoris resistentiae*) which may be a coronary artery, a cerebral artery, or some of the finer vessels in one of the overworked vital centers like the kidneys.

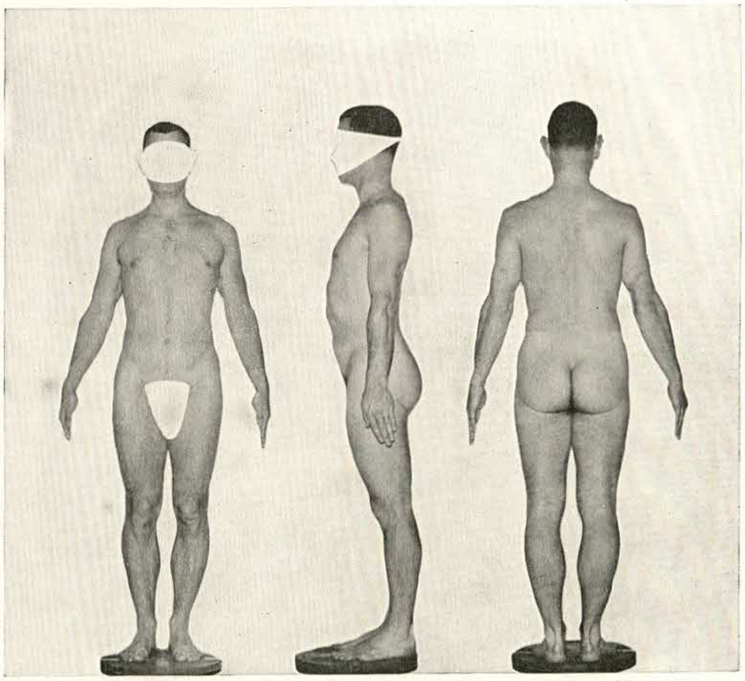


No. 506 *3 4 5* (*9*) 3 4 5–4 4 4 (3½ 4 4½) 13.20 at 22
3½ 4 4½, 3 3½ 5, 3½ 4 4½, 3½ 4 4½, 4 3½ 4½

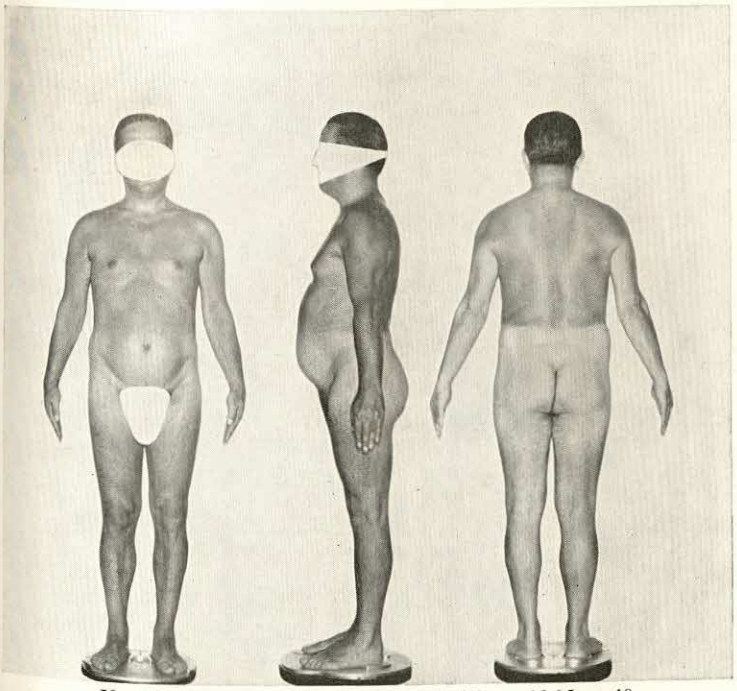


No. 507 *3 5 2* (*1*) 3 5 2–3 5 2 12.84 at 18
3 5 2½, 3 5 2, 3 5 2, 2½ 5 2½, 3 5 2

352

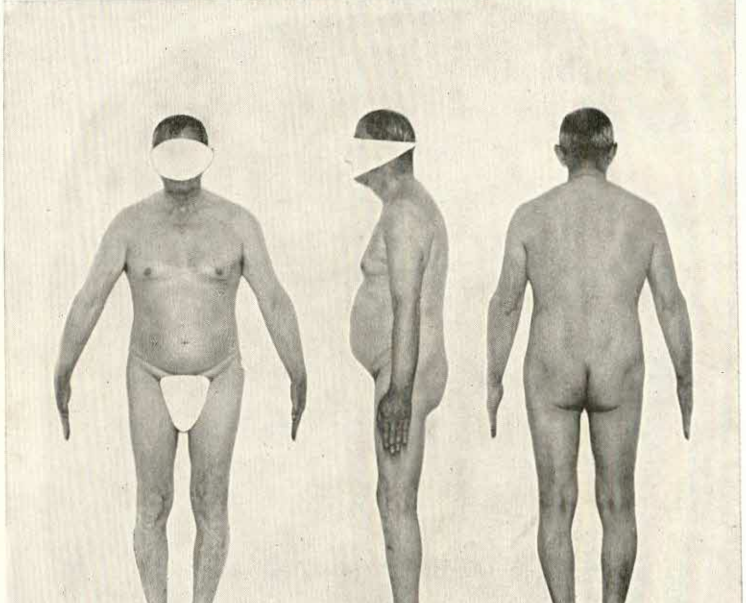


No. 508 *3 5 2* (*2*) 3 5 2–3 5 2 12.33 at 34
3 4½ 2½, 3½ 5 2, 3 5½ 1½, 3 5 2½, 3½ 5½ 1½

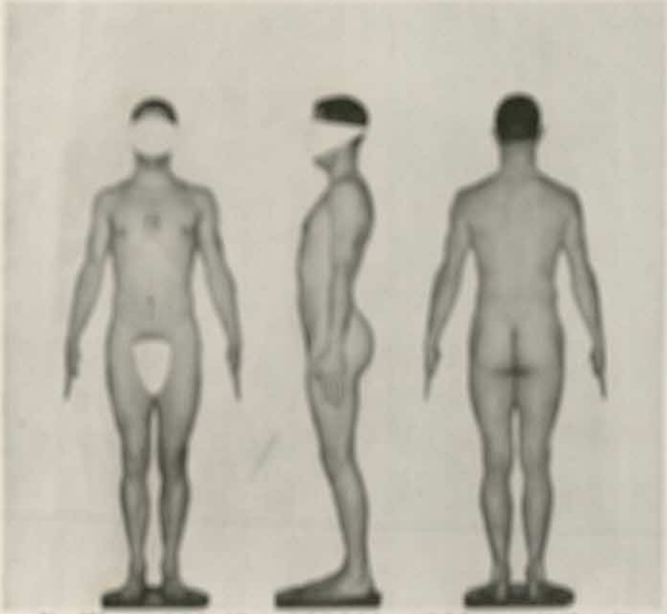


No. 509 *3 5 2* (*3*) 3 5 2–3 5 2 12.05 at 48
3½ 5 2, 3 5 2, 3½ 4½ 2, 3½ 5 2, 3 5 2

352

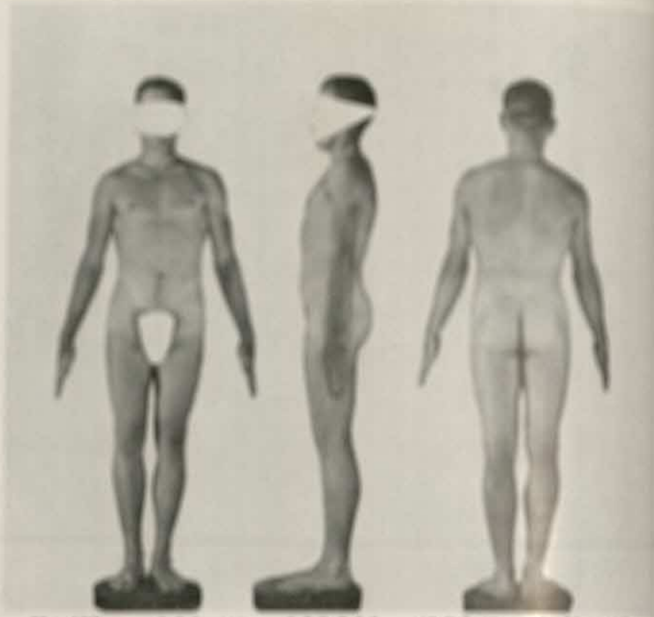


No. 510 *3 5 2* (*4*) 3 5 2–3 5 2 12.03 at 66
3 5 2, 3 5½ 2½, 3½ 5 2, 3½ 4½ 2, 2½ 5 2

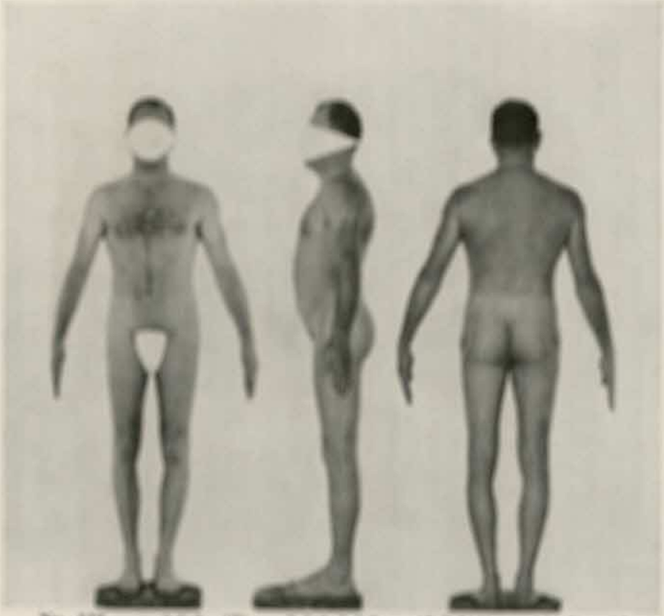


No. 101 3 5 2 (5) 3 5 2-3 5 3 (3 5 2½) 12.82 at 20
2½ 5 2. 3 5 2½. 3 5 2½. 3 5 2½. 2½ 5 2½

352



No. 102 3 5 2 (4) 3 5 2-3 5 3 (3 5 2½) 12.72 at 25
3 5 2½. 3 5 2½. 2½ 5 2½. 2½ 5 2½. 3 5 2½



No. 103 3 5 2 (7) 3 5 2-3 5 3 (3 5 2½) 12.65 at 32
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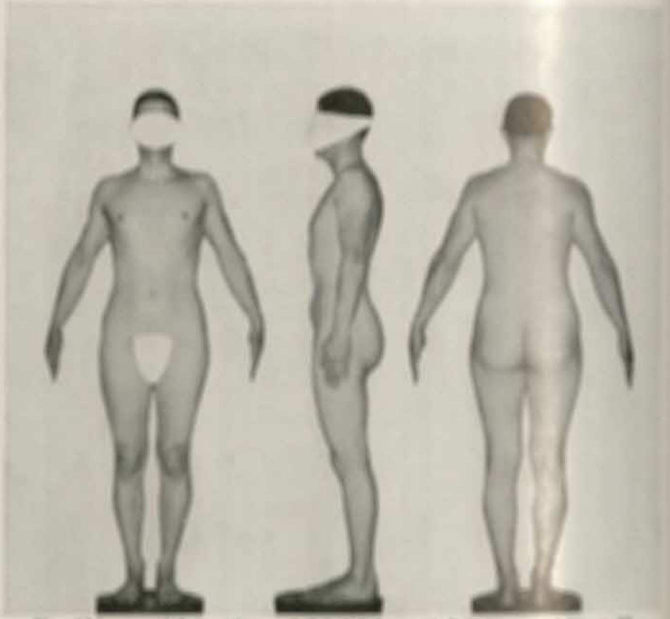
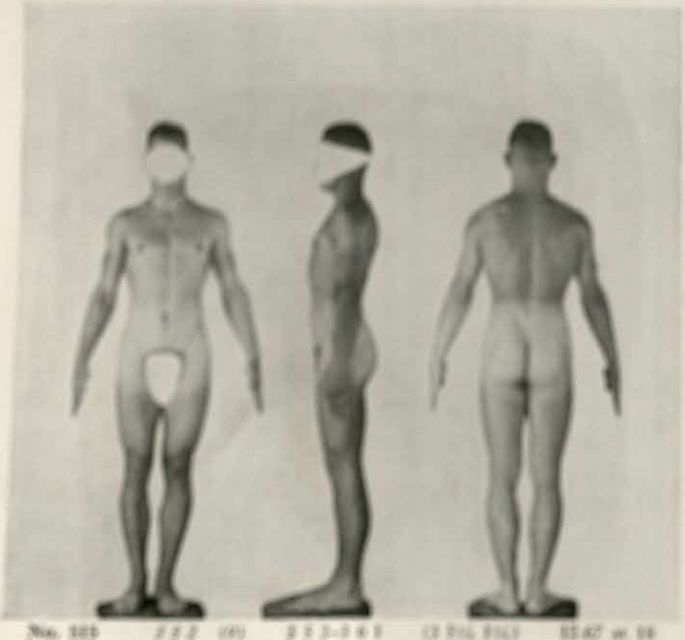
352

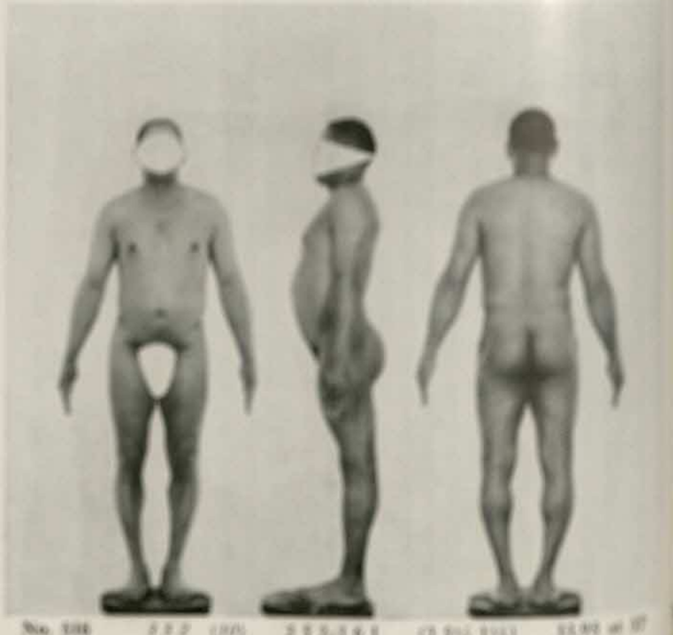


No. 104 3 5 2 (8) 3 5 2-3 5 3 (3 5 2½) 12.30 at 28
2½ 5 2½. 3 4½ 2½. 3 5 2. 3½ 5 2½. 4 5 2½

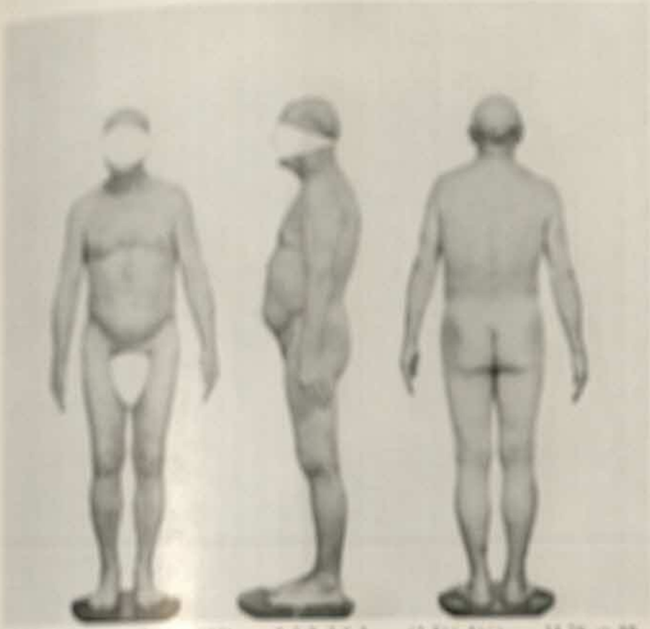


No. 105 3 5 2 (9) 3 5 2-3 4 3 (3 5½ 2½) 12.67 at 19
3 5½ 2½. 3 5½ 2½. 2½ 5½ 2½. 2½ 5½ 2. 3 5½ 2

352

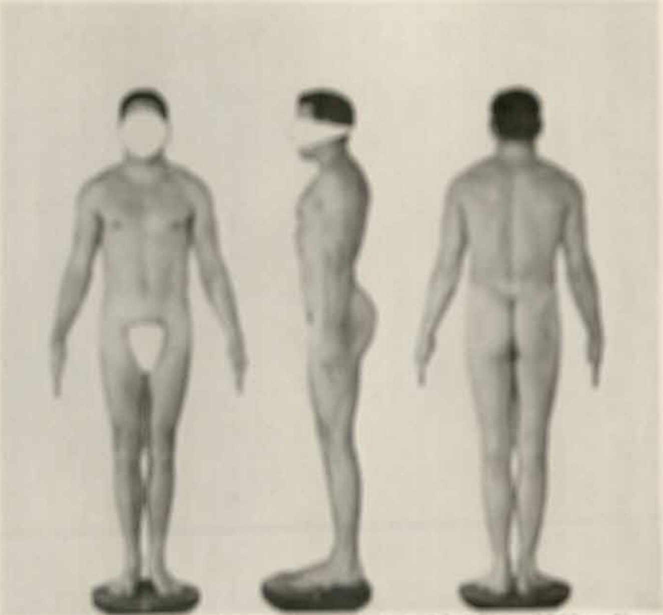


No. 106 3 5 2 (10) 3 5 2-3 4 3 (3 5½ 2½) 12.92 at 37
3 5½ 2½. 3 6 2½. 3 5½ 2½. 3 5½ 2½. 2½ 5½ 2½

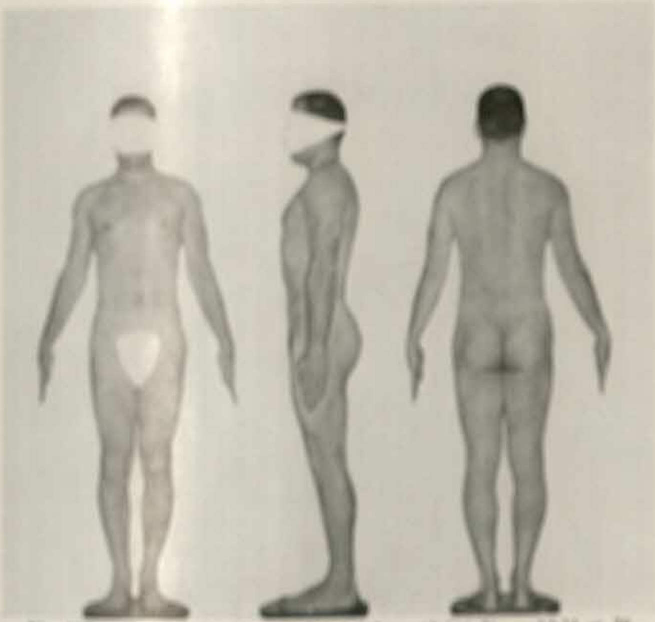


No. 517 *3 5 2* (27) 3 5 2-3 6 1 (3 5½ 3½) 11.76 at 48
3 5½ 3½. 3 5½ 2. 3 5 2. 3 5½ 3½. 3 5½ 3½

352

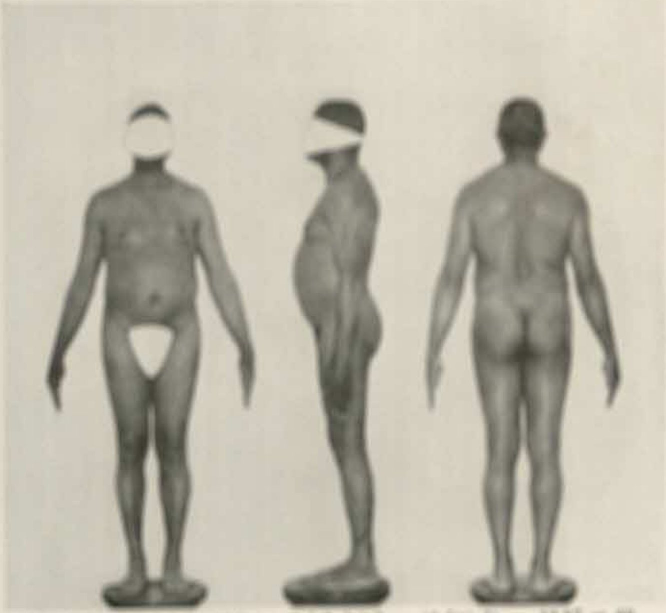


No. 518 *3 5 2* (27) 3 5 2-3 6 2 (3 5½ 2) 12.12 at 28
3 6½ 1. 3 6 1½. 3 6 1½. 2 5½ 2. 3½ 4 3½

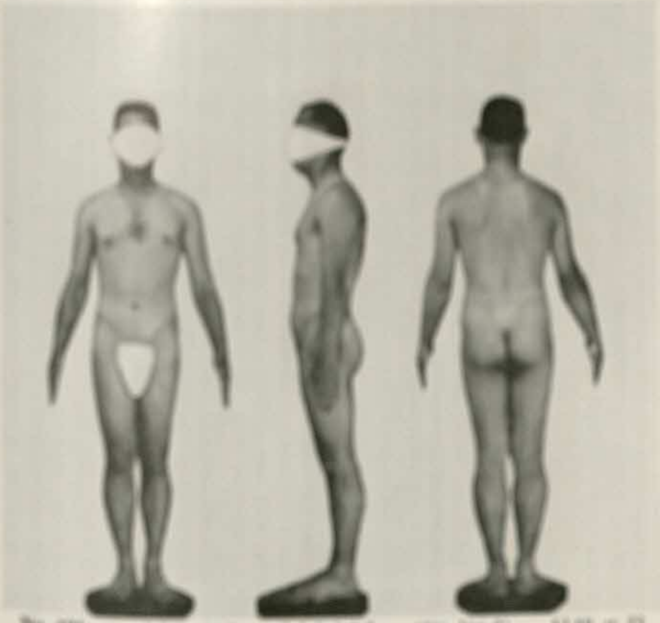


No. 519 *3 5 2* (27) 3 5 2-3 6 2 (3 5½ 2) 12.16 at 26
3 5½ 1½. 3 5½ 2. 3 5½ 2. 3 5½ 2½. 3 6 2½

352

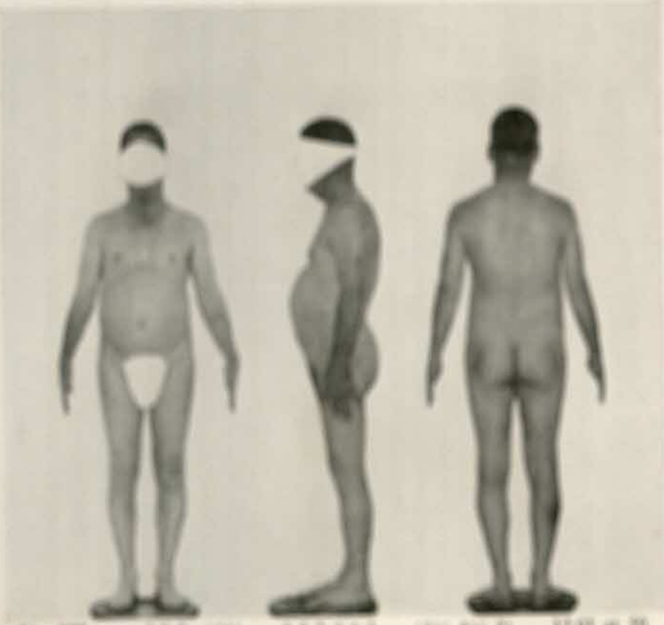


No. 520 *3 5 2* (28) 3 5 2-3 6 2 (3 5½ 2) 11.87 at 40
3 5½ 2. 2½ 5½ 2. 3 5½ 2½. 3 6 1½. 3 5½ 2

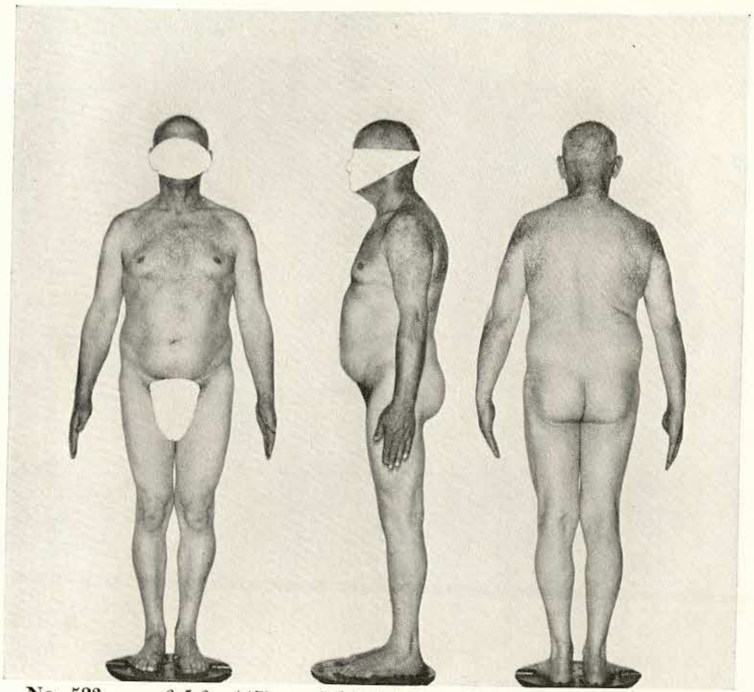


No. 521 *3 5 2* (27) 3 5 2-4 6 2 (3½ 4½ 2) 12.00 at 23
3 4½ 2½. 2½ 4½ 3. 3½ 4½ 3. 3 4½ 2½. 4 4½ 2

352



No. 522 *3 5 2* (30) 3 5 2-4 6 2 (3½ 4½ 2) 12.00 at 36
3½ 4½ 3. 3½ 4½ 3. 3½ 5 3½. 3½ 5 3½. 3½ 4½ 2



No. 523 *3 5 2 (17)* 3 5 2–4 4 2 (3½ 4½ 2) 11.98 at 60
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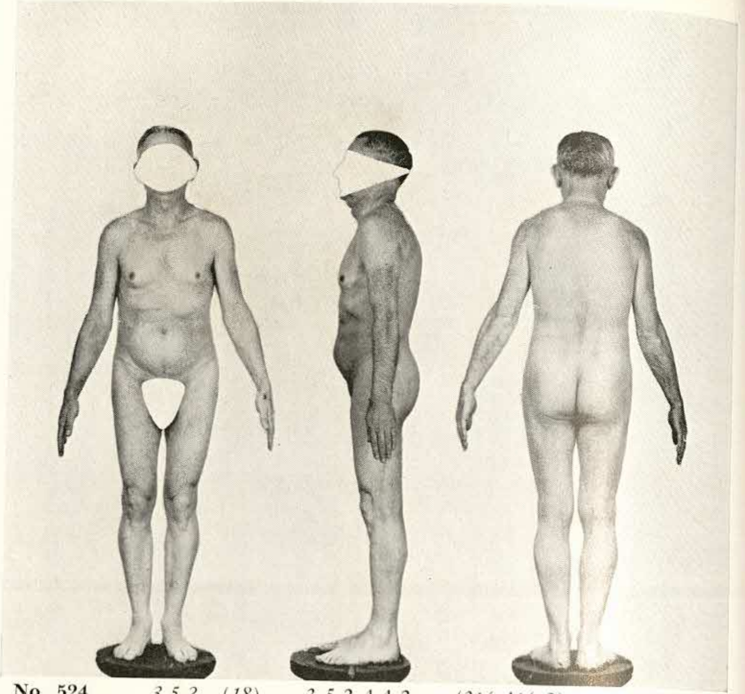
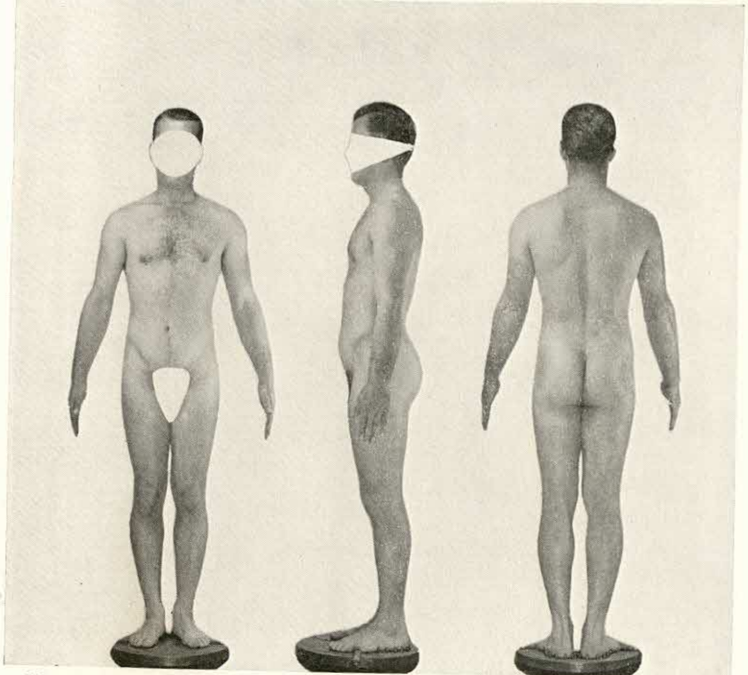
352

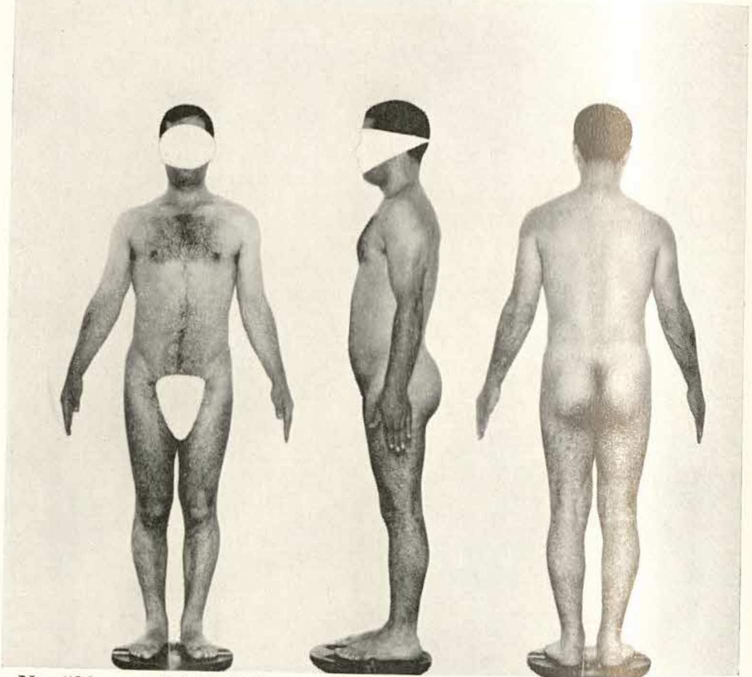


No. 524 *3 5 2 (18)* 3 5 2–4 4 2 (3½ 4½ 2) 12.15 at 70
3½ 5 1½, 3½ 5 2, 3 4½ 2½, 3½ 4½ 2, 3 4½ 2½

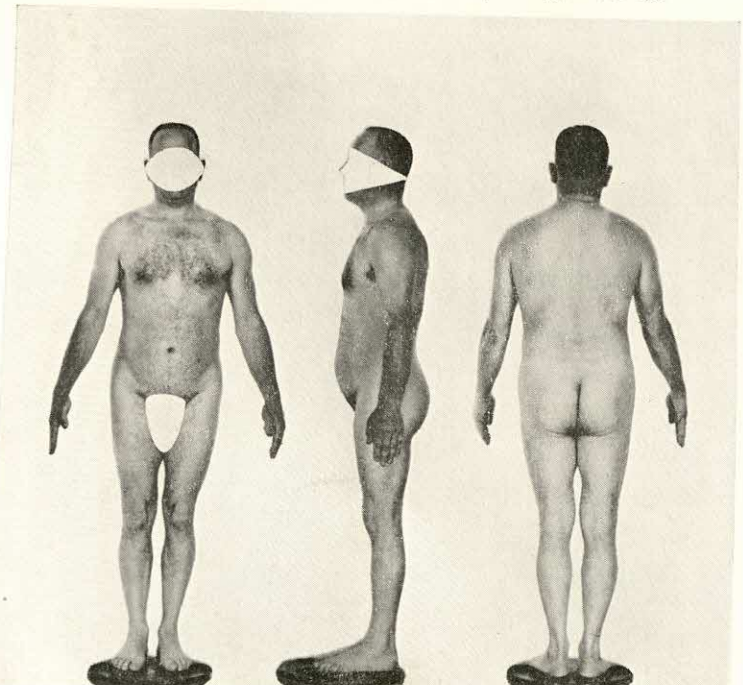


No. 525 *3 5 2 (19)* 3 5 2–4 5 1 (3½ 5 1½) 12.47 at 22
3½ 4½ 2, 3½ 5 1½, 3½ 5½ 1, 3½ 5 1½, 4 5 1½

352

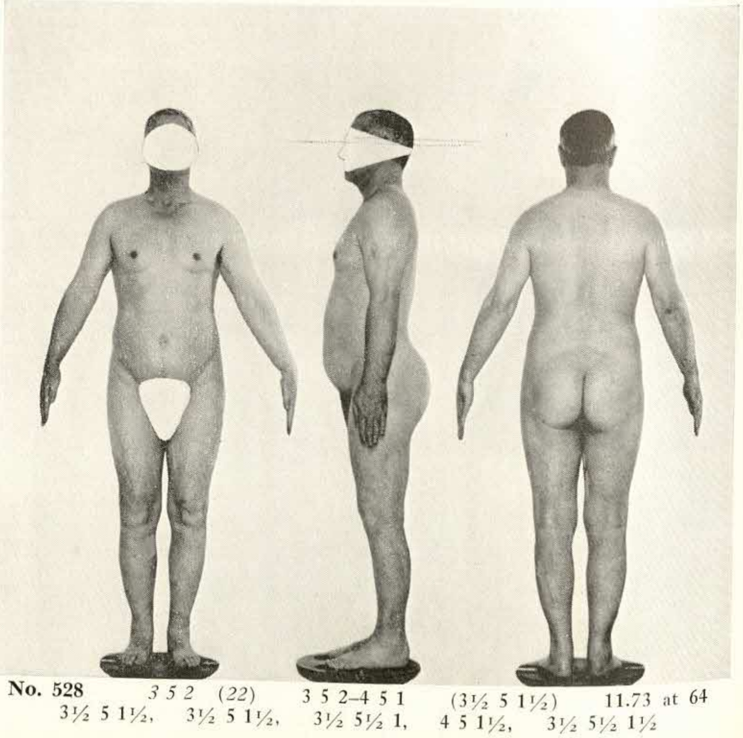


No. 526 *3 5 2 (20)* 3 5 2–4 5 1 (3½ 5 1½) 12.05 at 35
3½ 5 1½, 3½ 5 1½, 3½ 5 1½, 3½ 5 1½, 3½ 5½ 1

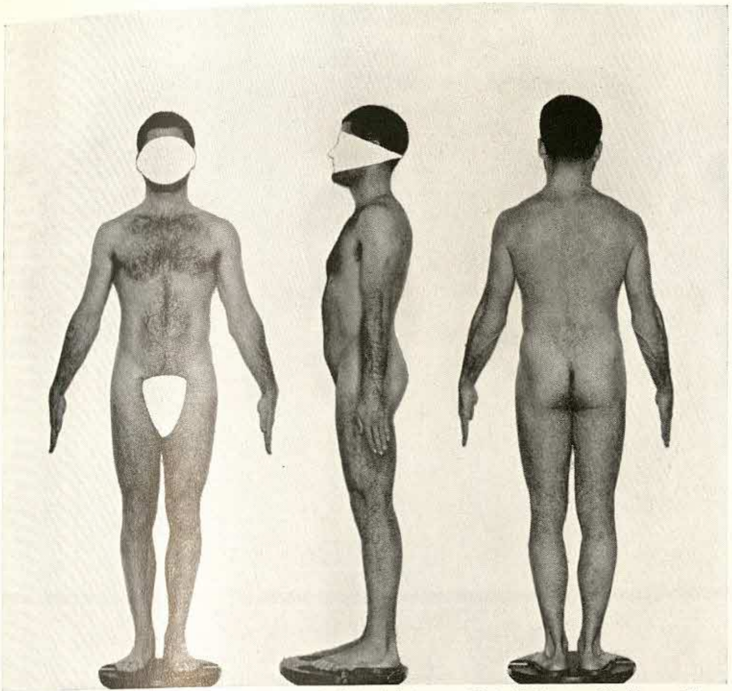


No. 527 *3 5 2 (21)* 3 5 2–4 5 1 (3½ 5 1½) 11.72 at 52
4 5 1, 3½ 5½ 1½, 3½ 5 1½, 3½ 5 1½, 3½ 4½ 2

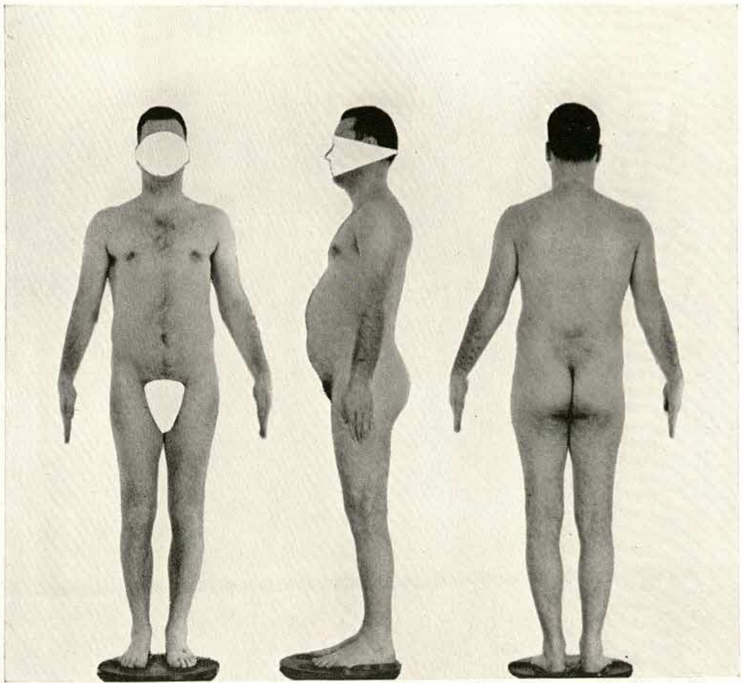
352



No. 528 *3 5 2 (22)* 3 5 2–4 5 1 (3½ 5 1½) 11.73 at 64
3½ 5 1½, 3½ 5 1½, 3½ 5½ 1, 4 5 1½, 3½ 5½ 1½



No. 529 *3 5 2* (*23*) 3 5 2–4 5 2 (3½ 5 2) 12.56 at 24
4 5 2, 3½ 5 2, 3½ 5 2, 3½ 4½ 2, 3½ 5 2



No. 530 *3 5 2* (*24*) 3 5 2–4 5 2 (3½ 5 2) 12.08 at 37
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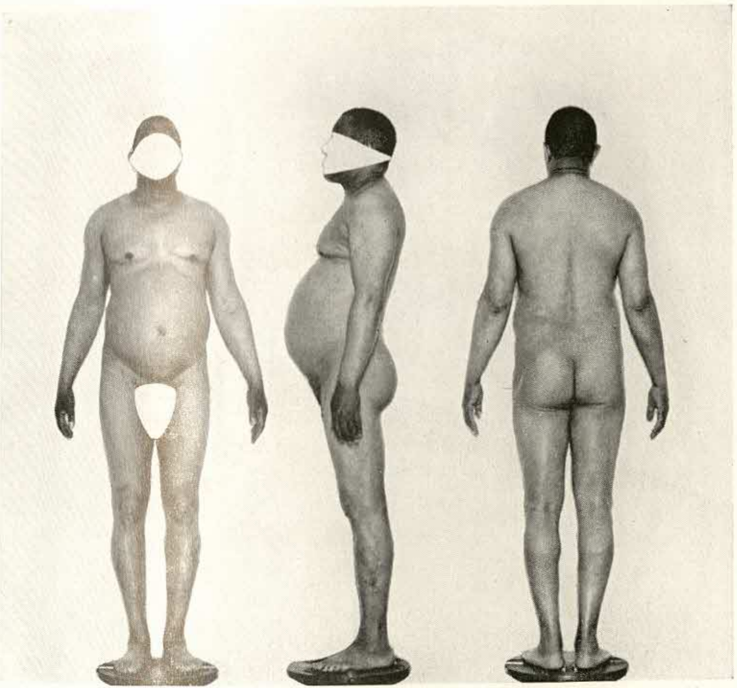
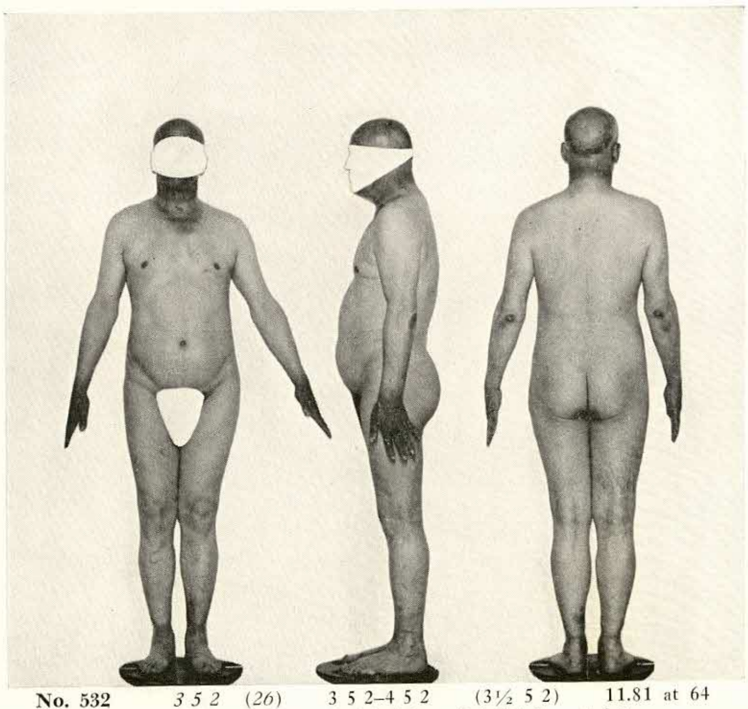
352

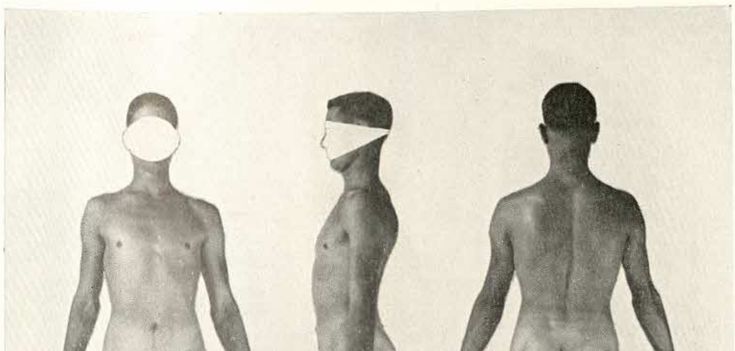


No. 531 *3 5 2* (*25*) 3 5 2–4 5 2 (3½ 5 2) 11.80 at 60
3 5½ 2, 3½ 5 2, 4 4½ 2, 4 5 2, 3½ 5 2½

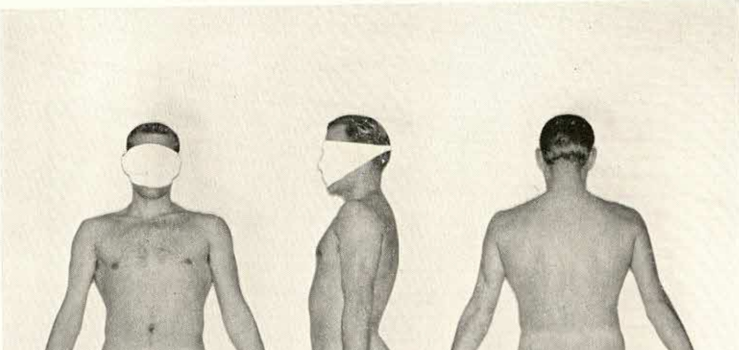


No. 532 *3 5 2* (*26*) 3 5 2–4 5 2 (3½ 5 2) 11.81 at 64
3½ 5 1½, 3 5 2, 3½ 4½ 2, 3½ 4½ 2, 4 5 2

352



No. 533 *3 5 2* (*27*) 3 5 2–4 5 3 (3½ 5 2½) 12.85 at 19
3 4½ 3, 3½ 5 2½, 3½ 5 2½, 3 4½ 2½, 3½ 5 2½



No. 534 *3 5 2* (*28*) 3 5 2–4 5 3 (3½ 5 2½) 12.46 at 28
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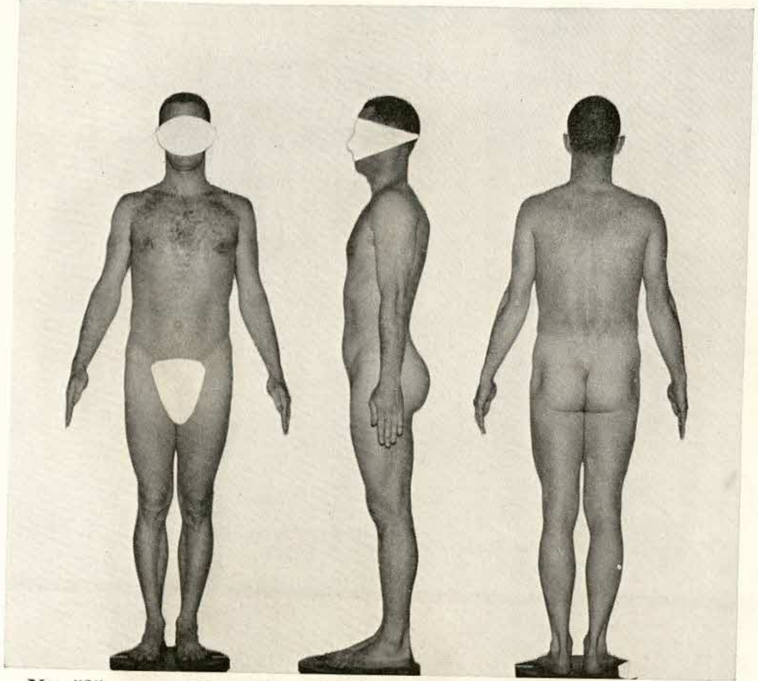
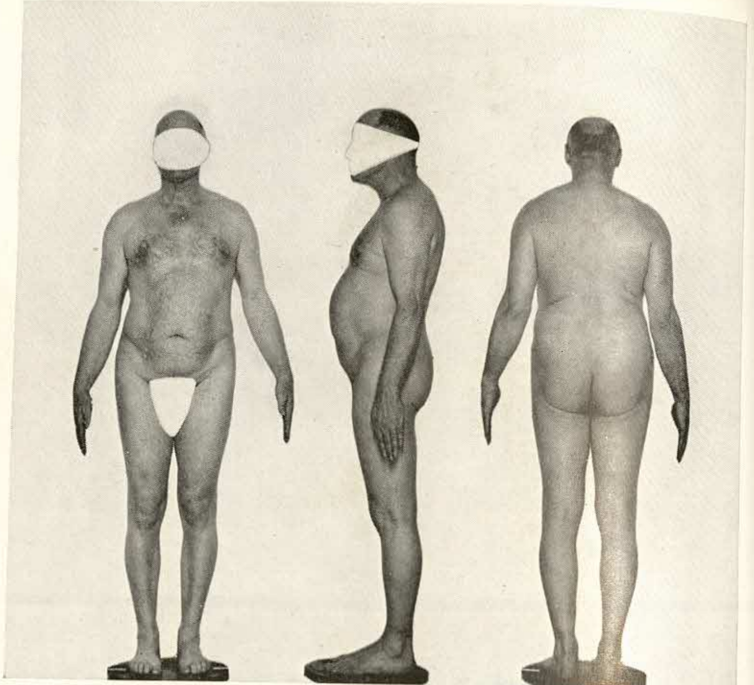
352

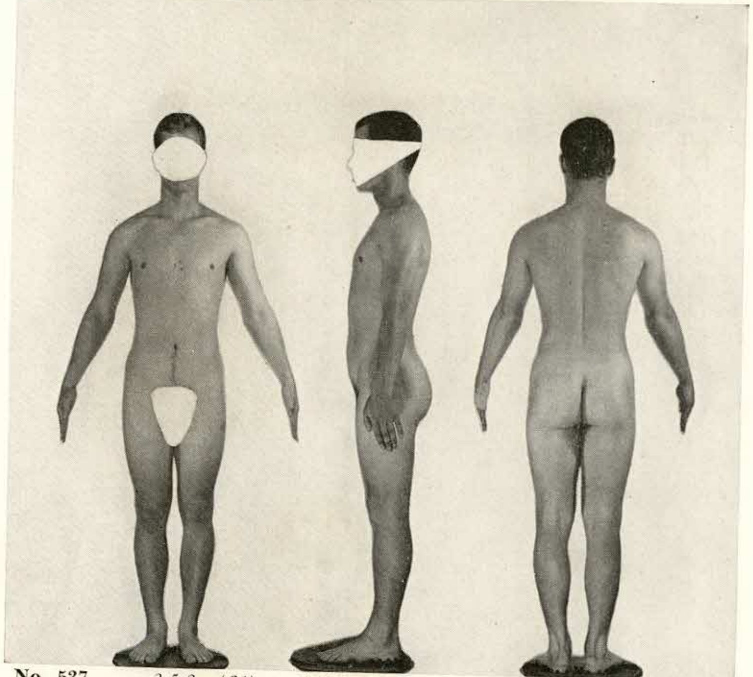


No. 535 *3 5 2 (29)* 3 5 2–4 5 3 (3½ 5 2½) 12.31 at 32
3 4½ 3, 3½ 5 2, 3½ 5 2½, 3½ 5 2½, 3½ 5 2½

352

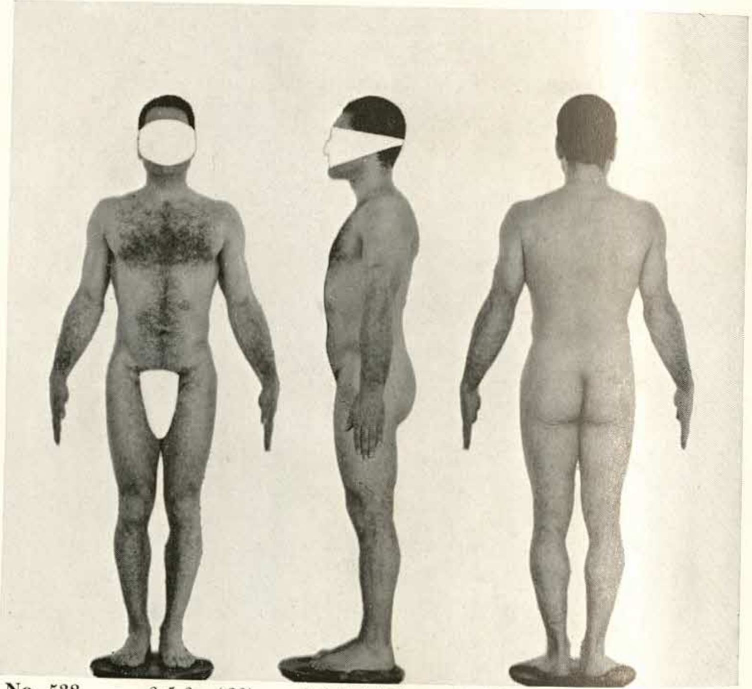


No. 536 *3 5 2 (30)* 3 5 2–4 5 3 (3½ 5 2½) 11.90 at 59
3 4½ 2½, 3½ 5½ 2½, 3½ 5 2½, 3½ 5 2½, 3½ 5 2½

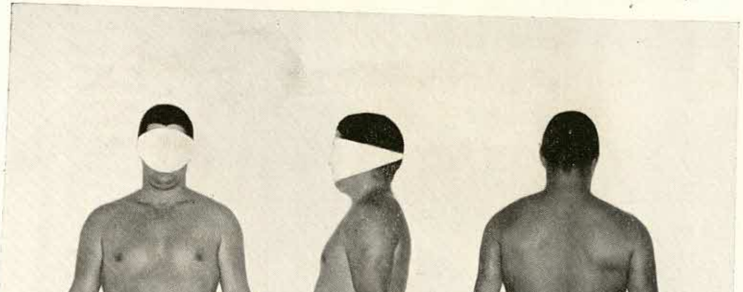


No. 537 *3 5 2 (31)* 3 5 2–4 6 1 (3½ 5½ 1½) 12.48 at 19
3½ 5 1½, 3½ 5½ 1½, 3½ 5½ 1½, 3½ 5½ 2, 3½ 5½ 1½

352

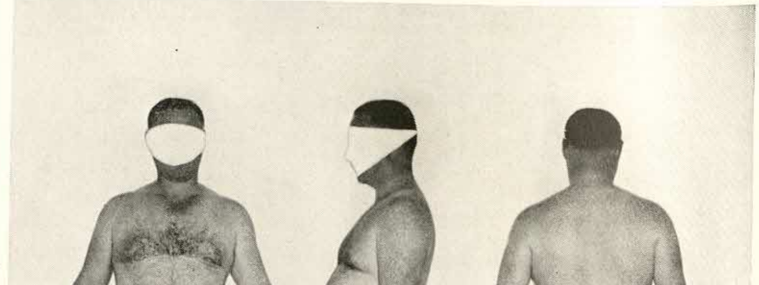


No. 538 *3 5 2 (32)* 3 5 2–4 6 1 (3½ 5½ 1½) 12.00 at 30
3 5½ 2, 3½ 5½ 1½, 3½ 6½ 1, 3½ 5½ 2, 3½ 5 2



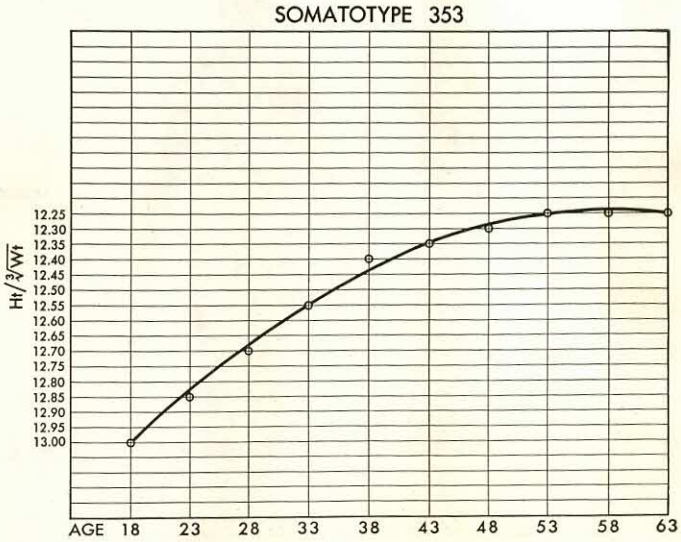
No. 539 *3 5 2 (33)* 3 5 2–4 6 1 (3½ 5½ 1½) 11.55 at 43
4 6 1, 4 6 1½, 3½ 5½ 1½, 3½ 5½ 1½, 3½ 5½ 1½

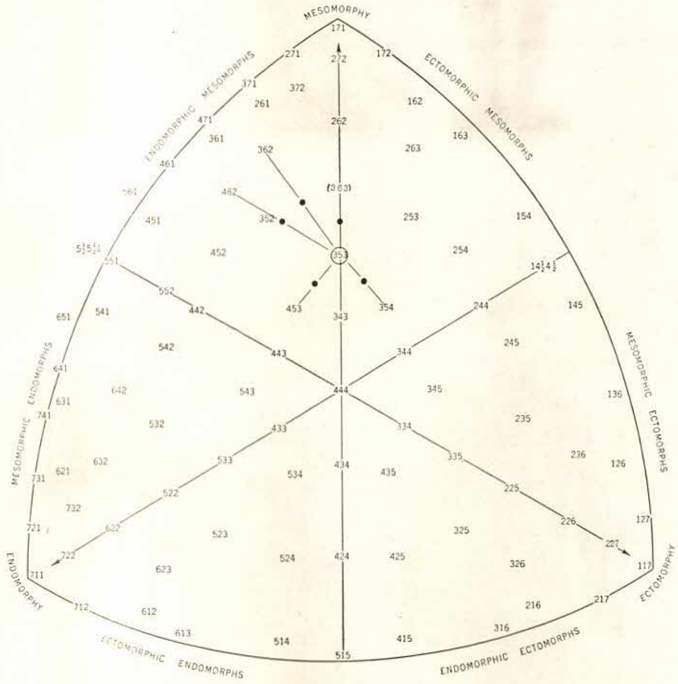
352



No. 540 *3 5 2 (34)* 3 5 2–4 6 1 (3½ 5½ 1½) 11.60 at 58
3 5½ 1½, 3½ 5½ 1½, 4 5½ 1, 3½ 5½ 1½, 3 6 1

Somatotype 3 5 3 *(Balanced mesomorphy, 11-level.) Horses, common everyday variety. Not the heavy Percherons or Belgian draft horses, and not the 3 5 4 race horses, but the steady Old Dobbins and the sons of the Old Gray Mares. Nos. 545–561.*



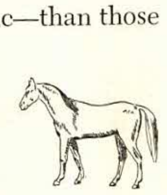


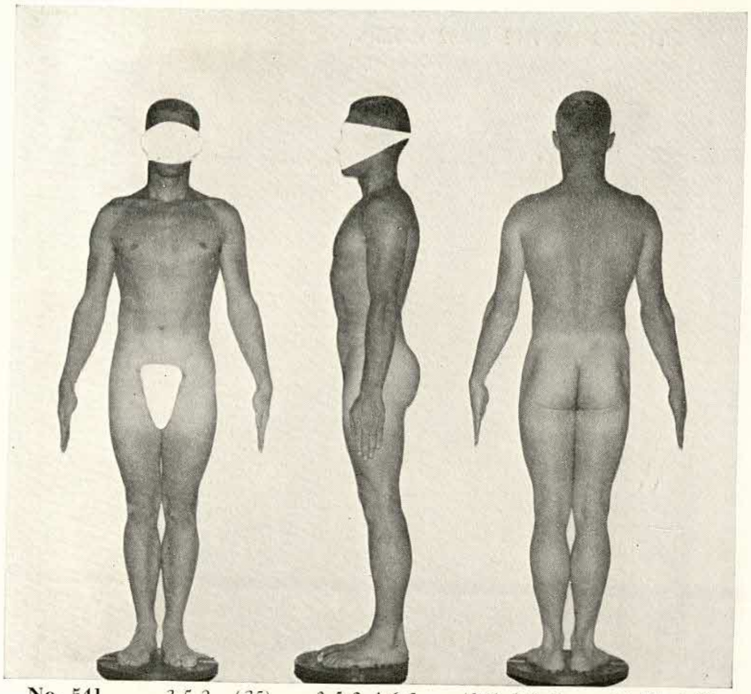
Weight for Age and Height

Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	191	199	206	214	221	223	227	228	230	230
74	184	191	198	205	212	215	218	219	221	221
73	177	184	190	197	204	207	210	210	212	212
72	169	176	182	189	195	198	201	201	203	202
71	162	169	174	181	187	190	193	193	195	195
70	156	162	167	174	180	182	185	186	187	187
69	149	156	161	167	172	175	177	178	179	179
68	143	149	154	160	165	168	169	170	171	170
67	136	142	147	153	158	160	162	163	164	164
66	130	136	140	146	151	153	155	156	156	155
65	124	130	134	139	144	146	148	149	149	149
64	119	124	128	133	137	139	141	142	142	141
63	113	118	122	127	131	133	134	135	136	136
62	108	113	116	121	124	127	128	129	130	130
61	103	107	111	115	119	121	122	123	123	123

Rarity 1. Incidence 56 per thousand. Third commonest somatotype, commonest mesomorph, commonest somatotype carrying a predominant component, and one of the long lived elite. If you know a fairly big-boned, solid-bodied man of average stature who has added not more than 30 pounds or so in the course of his adult life, who was always a competent but never a brilliant athlete, and about whom there does not seem to be anything abnormal or particularly unusual, unless being a sturdy, dependable fellow is unusual, the chances are good that he is a 3 5 3.

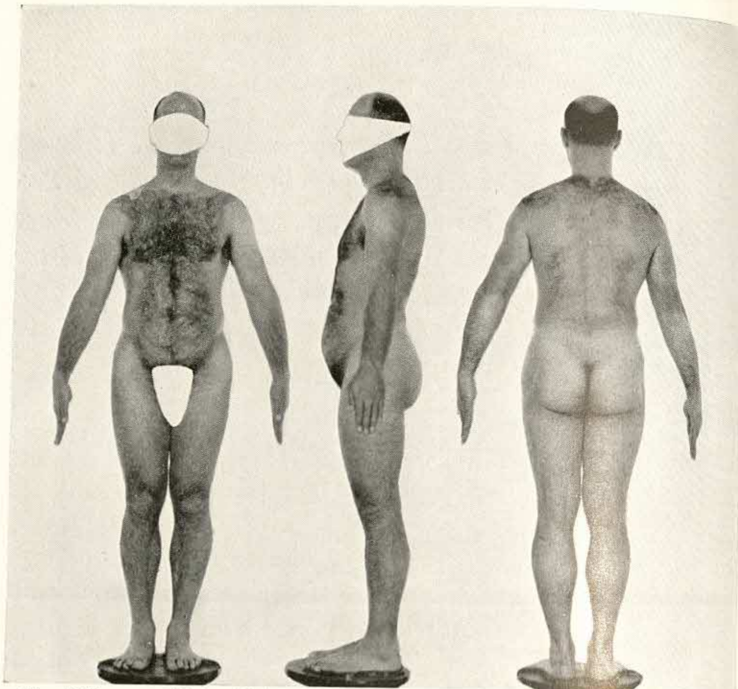
Such is the characteristic picture of this somatotype, particularly when the individual is free from what have been called the "straining" dysplasias, or dysplasias that predispose toward strain and thus lead to breakdown at some weak point in the organic system. For some reason entirely obscure to our present knowledge, a common weakness in the 3 5 3 appears to reside in the gut, and especially in the duodenum, which is that portion of the small intestine, about twelve inches in length, that leads directly from the stomach. The duodenum is the most frequent site for peptic ulcer, and the dysplastic 3 5 3 is a common physique among patients with duodenal ulcer. The dysplasia usually involved is one in which the first three bodily regions (head and neck, chest, and arms) are disproportionately more mesomorphic—tougher and more powerful—than the other two regions of the body (abdominal trunk and legs). It almost seems as if the head end of the organism has too much drive and energy for the tail end, and in the ensuing strain the point of breakdown is often somewhere in the duodenum. The people who get *gastric* ulcer, predominantly men, seem typically harder and leaner—more endopenic—than those who develop duodenal ulcer.



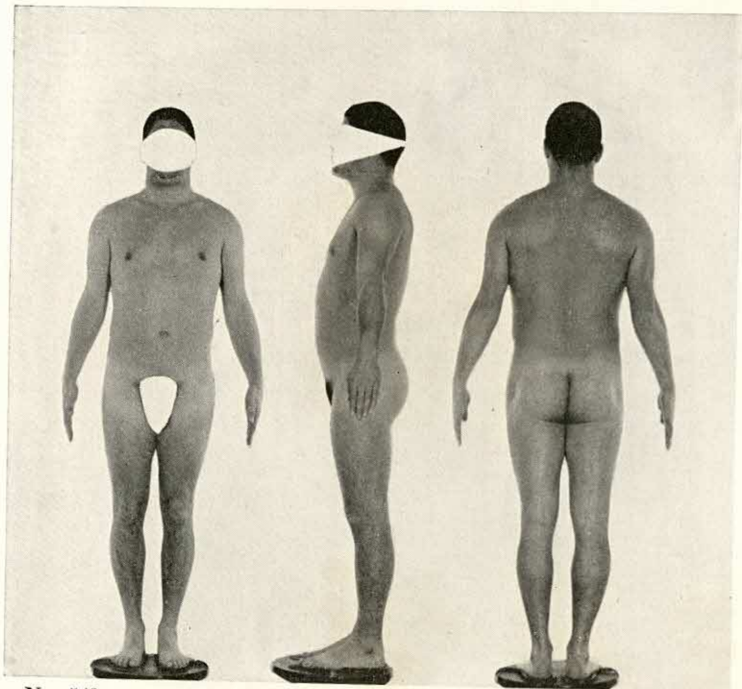


No. 541 *3 5 2* (*35*) 3 5 2–4 6 2 (3½ 5½ 2) 12.42 at 21
3½ 5½ 2, 3½ 5½ 1½, 3 5½ 2, 3 5½ 2, 3½ 5½ 2

352

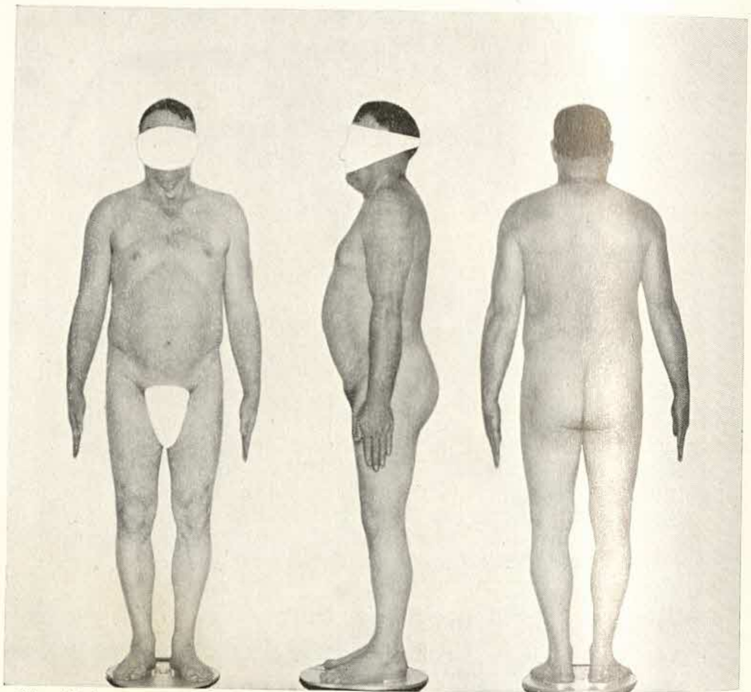


No. 542 *3 5 2* (*36*) 3 5 2–4 6 2 (3½ 5½ 2) 11.90 at 36
3 5½ 2½, 3½ 5 2, 3 6 1, 3½ 5 2, 3½ 5½ 1½

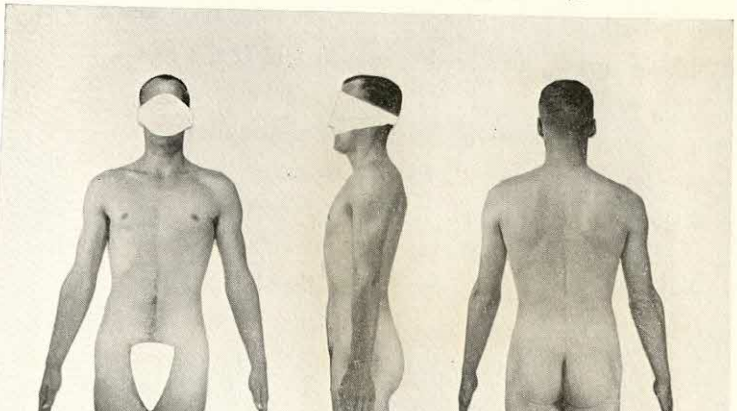


No. 543 *3 5 2* (*37*) 3 5 2–4 6 2 (3½ 5½ 2) 11.87 at 39
4 6 1, 3½ 5½ 2, 3½ 5 2, 3½ 5½ 2, 3½ 5 2

352

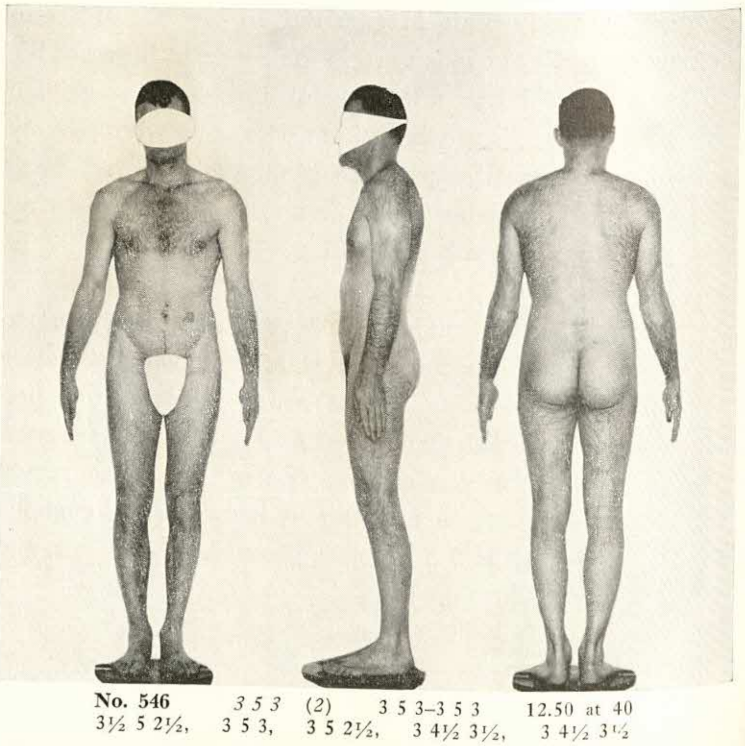


No. 544 *3 5 2* (*38*) 3 5 2–4 6 2 (3½ 5½ 2) 11.60 at 62
3½ 6½ 1½, 3½ 5½ 2, 3½ 6 1½, 3½ 5½ 2, 3½ 5 2½

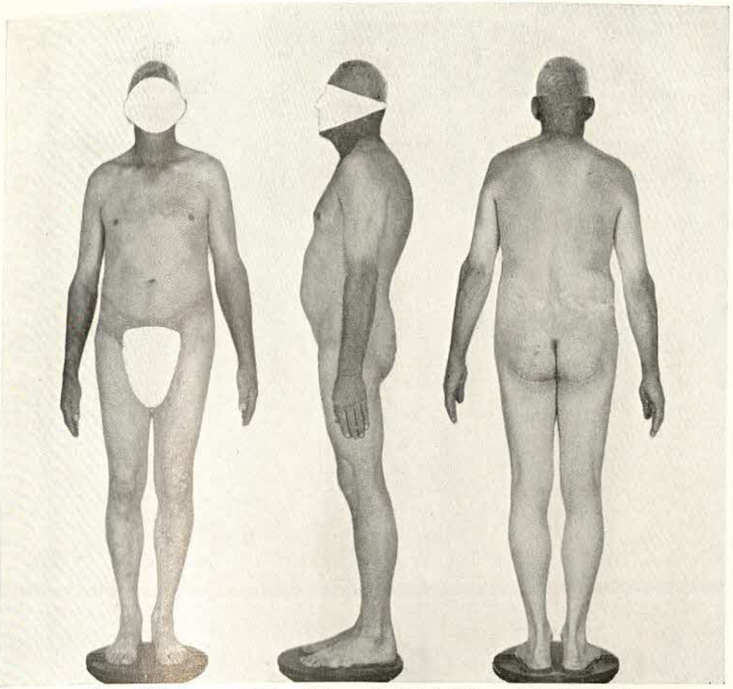


No. 545 *3 5 3* (*1*) 3 5 3–3 5 3 12.91 at 21
2½ 5 3, 3 5 3½, 3 5 3, 3 5 3½, 3 5 3

353

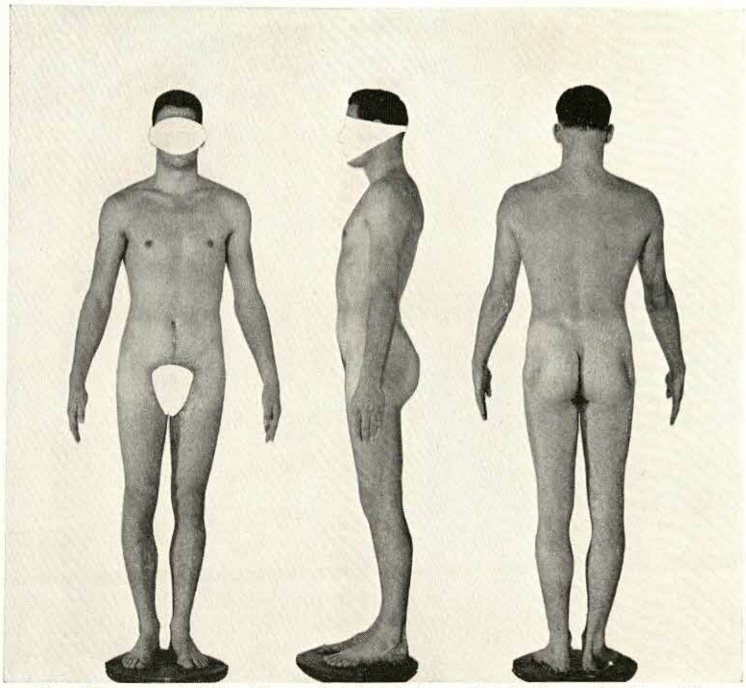


No. 546 *3 5 3* (*2*) 3 5 3–3 5 3 12.50 at 40
3½ 5 2½, 3 5 3, 3 5 2½, 3 4½ 3½, 3 4½ 3½

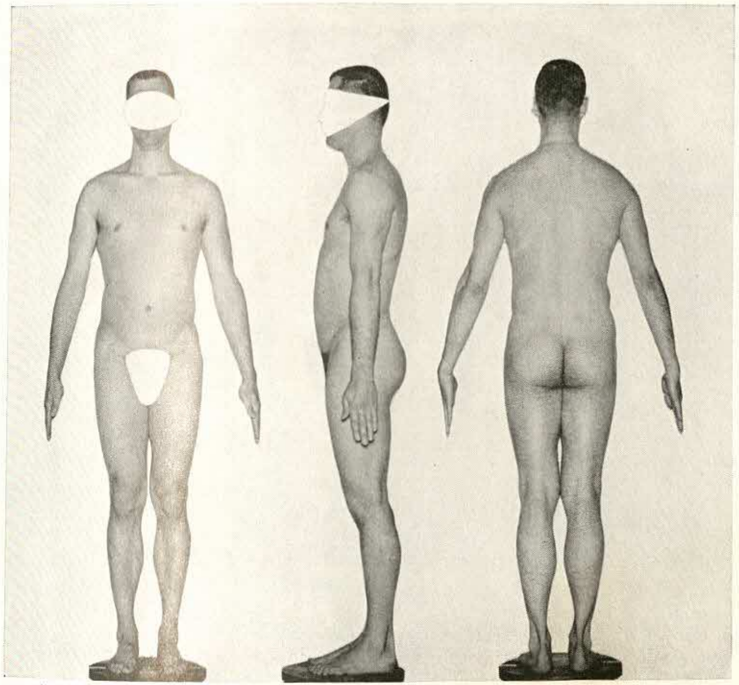


No. 547 *3 5 3* (*3*) 3 5 3–3 5 3 12.22 at 65
3 5½ 2½, 3 5 3½, 3 5 3, 3 4½ 3, 3 5½ 3

353

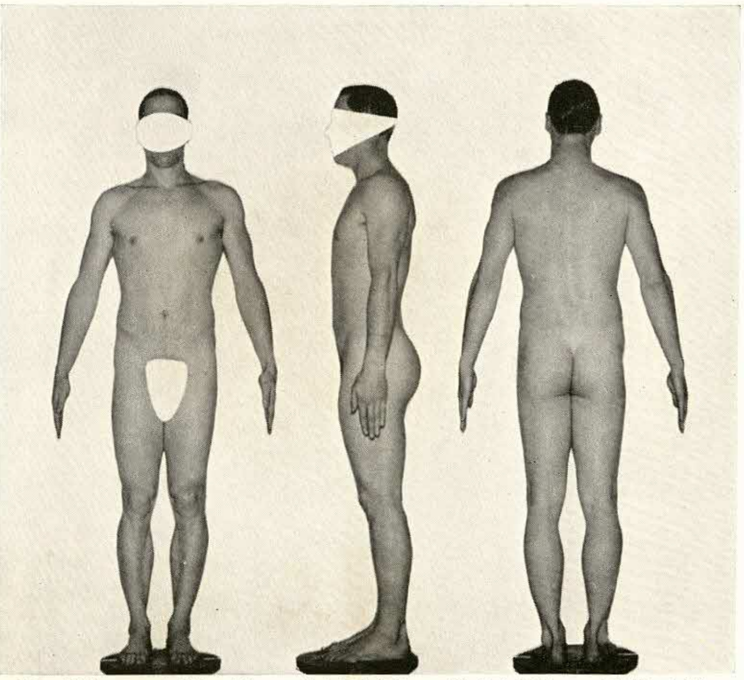


No. 548 *3 5 3* (4) 3 5 3–3 5 4 (3 5 3½) 13.00 at 20
3 5 3, 3 5 3½, 3 4½ 3½, 3 5 3½, 3 4½ 3½

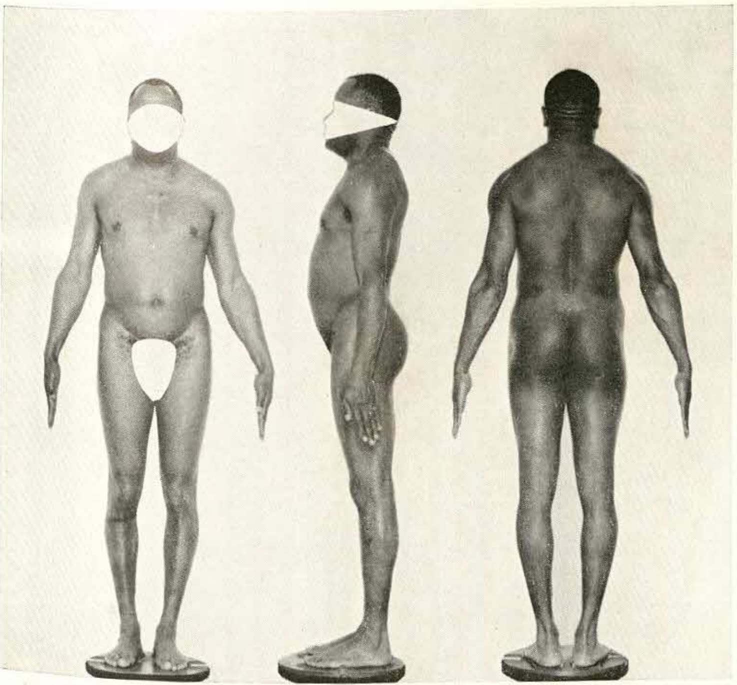


No. 549 *3 5 3* (*5*) 3 5 3–3 5 4 (3 5 3½) 12.73 at 30
3 4½ 4, 3 5 3½, 3 5 3½, 3 5 3½, 3½ 5½ 3

353



No. 550 *3 5 3* (*6*) 3 5 3–3 6 2 (3 5½ 2½) 12.60 at 23
3 5½ 2½, 3 5½ 2½, 3 5½ 2½, 3 5½ 2½, 3½ 6 2



No. 551 *3 5 3* (7) 3 5 3–3 6 2 (3 5½ 2½) 12.20 at 36
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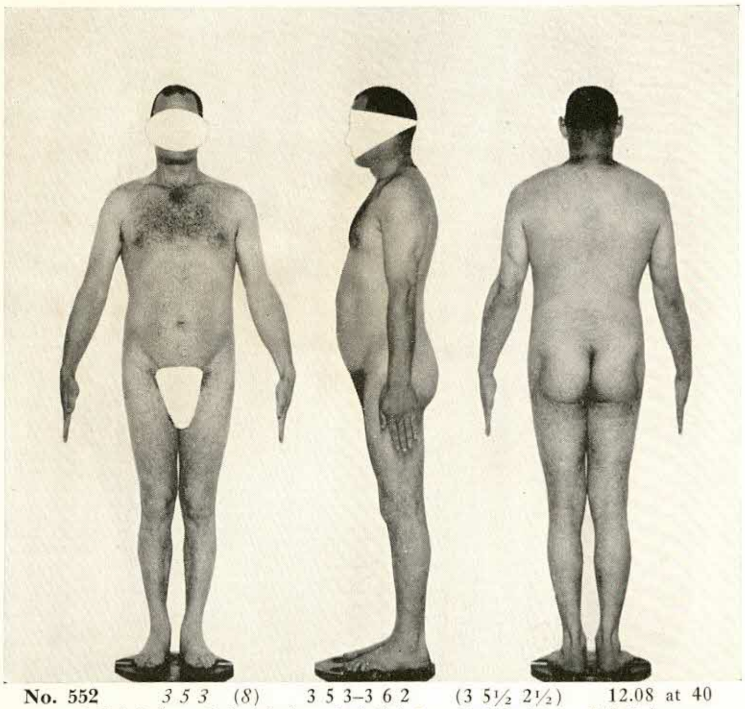
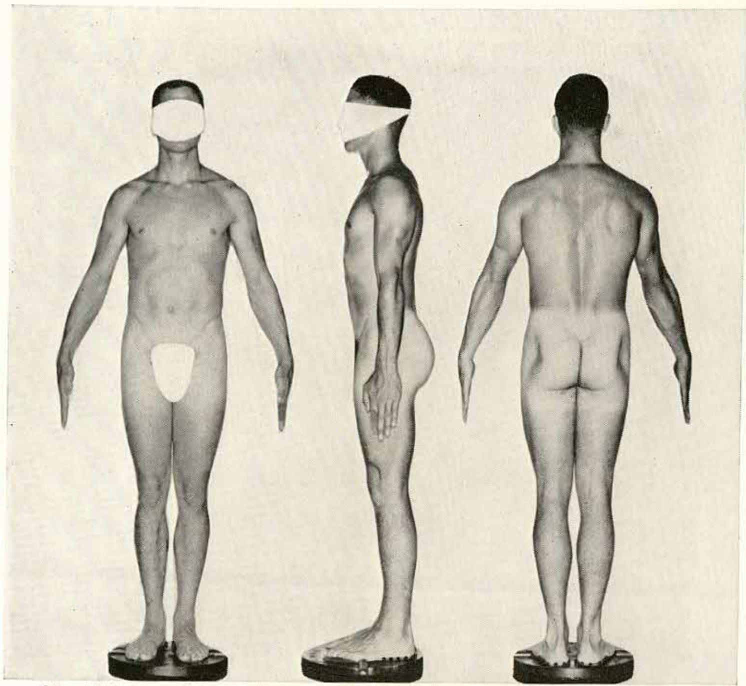
353

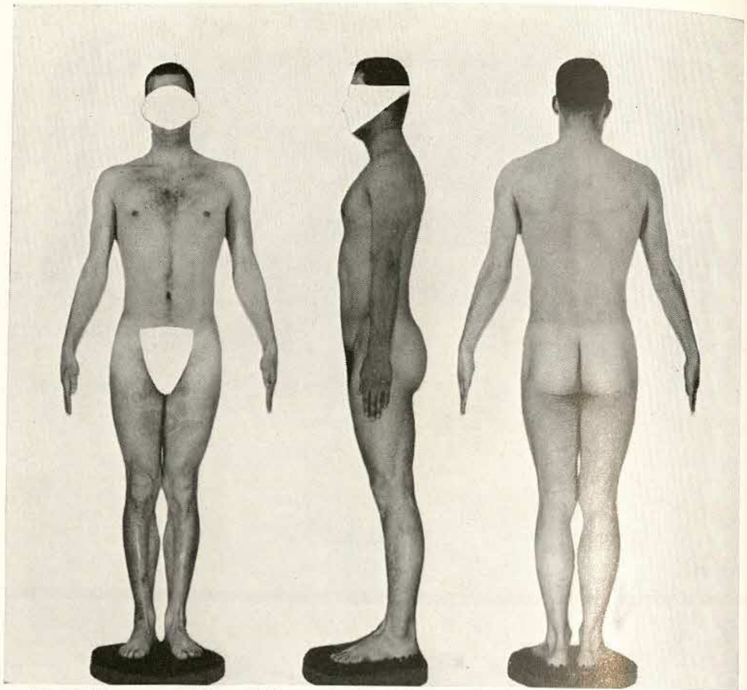


No. 552 *3 5 3* (*8*) 3 5 3–3 6 2 (3 5½ 2½) 12.08 at 40
3 5½ 2½, 3 5½ 2½, 3½ 5½ 2, 3½ 5½ 2, 3 5 2½

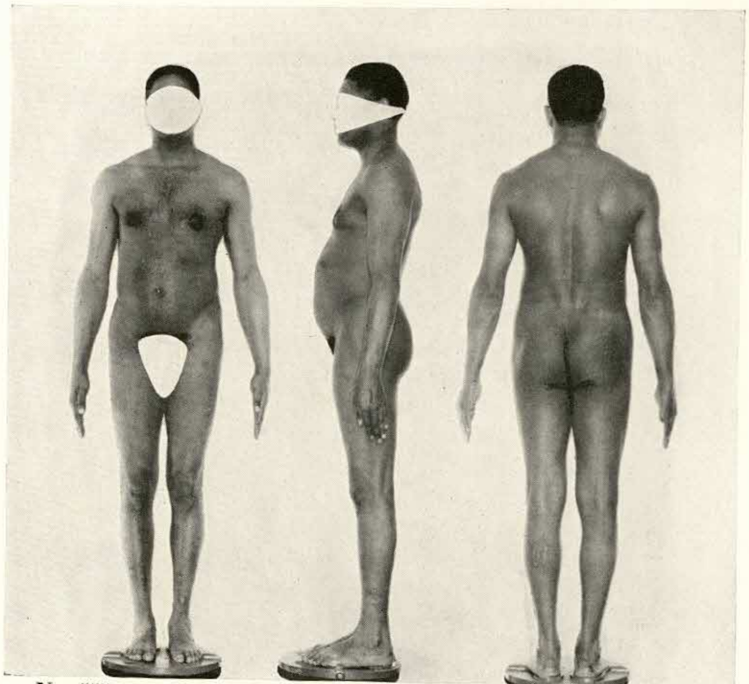


No. 553 *3 5 3* (*9*) 3 5 3–3 6 3 (3 5½ 3) 12.78 at 22
2½ 5½ 3, 3 5½ 3, 2½ 5½ 3, 3 5½ 3, 3 5½ 3

353

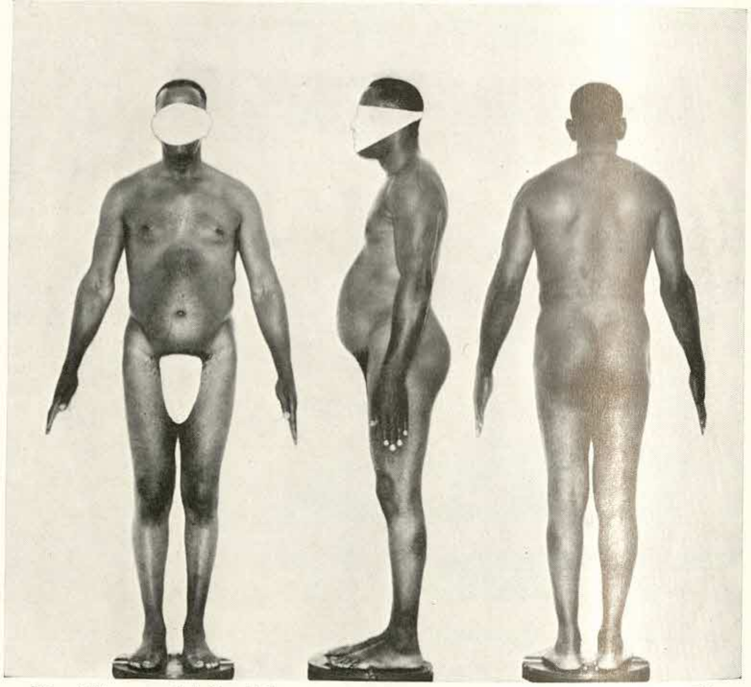


No. 554 *3 5 3* (*10*) 3 5 3–3 6 3 (3 5½ 3) 12.57 at 27
3 5 3½, 3 5½ 3, 3 5½ 3, 3 5½ 3½, 3½ 5½ 2½

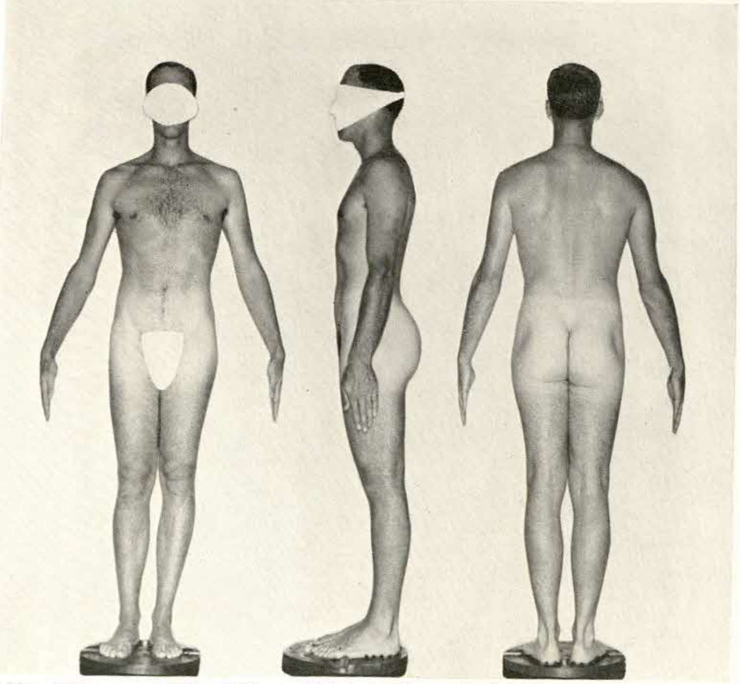


No. 555 *3 5 3* (*11*) 3 5 3–3 6 3 (3 5½ 3) 12.27 at 37
3 5½ 2½, 3 5½ 3, 3 5½ 3, 3 5½ 2½, 3 5 3½

353

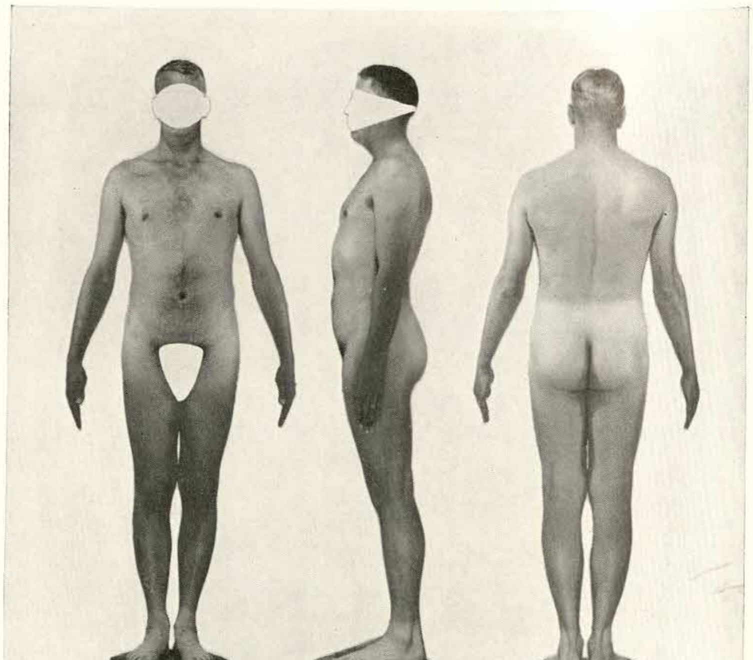


No. 556 *3 5 3* (*12*) 3 5 3–3 6 3 (3 5½ 3) 12.08 at 55
2½ 5½ 3, 2½ 5½ 3, 3 6 2½, 3 6 2½, 3 5½ 3



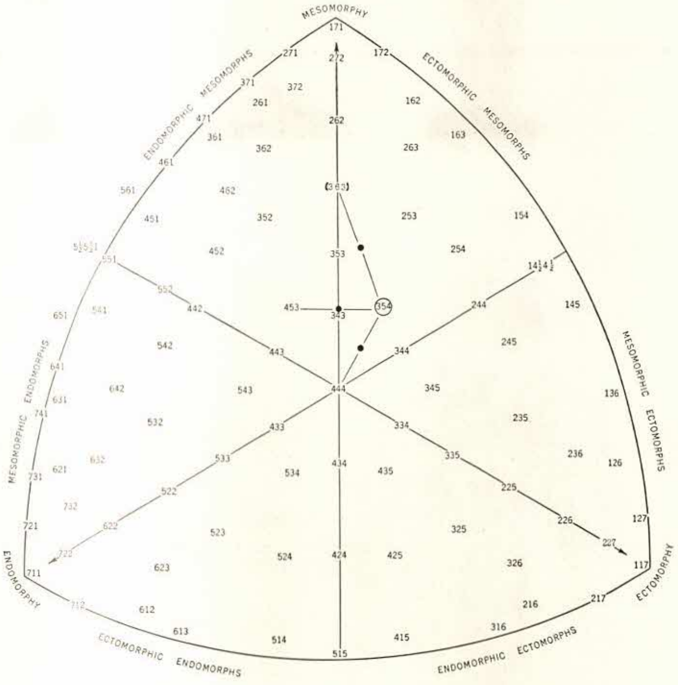
No. 557 *3 5 3* (*13*) 3 5 3–4 5 3 (3½ 5 3) 12.78 at 21
3 5 3½, 3½ 5 3, 3½ 5 3, 3½ 5 3, 4 5 3

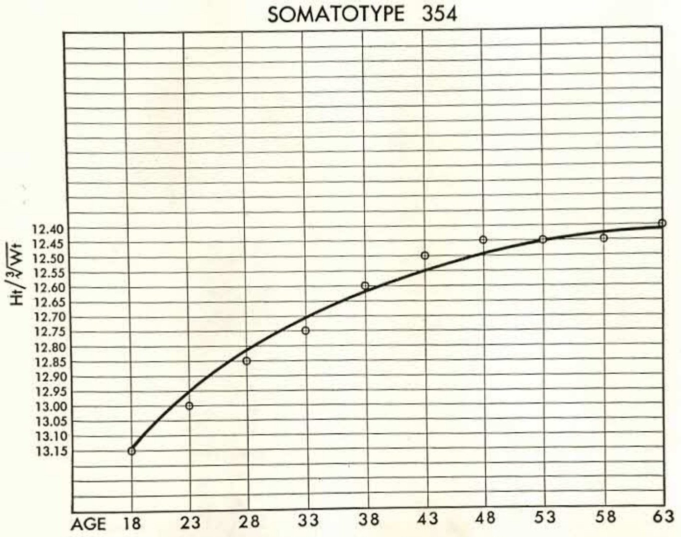
353



No. 558 *3 5 3* (*14*) 3 5 3–4 5 3 (3½ 5 3) 12.57 at 29
3 5 3, 3½ 5 2½, 3½ 4½ 3, 3½ 5 2½, 3½ 5 3

Somatotype 3 5 4 *(Ectomorphic mesomorphy, 12-level.) Race horses and thoroughbreds. Longer legged, faster, more lightly built, but still very powerful, noble animals. Nos. 562–572.*





Weight for Age and Height

Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	186	193	198	204	213	215	218	218	219	221
74	178	186	190	195	205	207	210	210	210	212
73	170	178	182	187	196	198	200	200	201	203
72	164	170	175	180	188	190	192	192	193	195
71	157	164	168	173	181	183	185	185	186	187
70	151	157	162	166	173	175	178	178	178	180
69	145	151	155	159	166	168	170	170	171	172
68	139	144	148	152	159	161	163	163	164	165
67	132	137	142	146	152	154	156	156	157	158
66	126	131	135	139	145	147	149	149	149	151
65	121	126	129	133	138	140	142	142	143	144
64	115	120	123	127	132	134	135	135	136	137
63	110	114	118	121	126	128	129	129	130	131
62	105	109	112	115	120	122	123	123	124	124
61	100	104	107	110	114	116	117	117	118	119

Rarity 1. Incidence 37 per thousand. This somatotype, the only 12-level one of the Northeast, may lead the field in the possession of natural advantages, and except for the midrange 4 4 4, is the commonest of the 12-totals. It is a singularly healthy somatotype, rarely seen in the clinics. It appears typically to have a good natural immunity not only to common infections but to the "degenerative" ailments as well. Rare in our cancer and diabetes series, it is also scarce in the mental hospitals (but when found there is likely to appear in the role of paranoid killer). The 3 5 4 is as good a candidate as any for the distinction of being the longest lived somatotype.

A tall somatotype, the tallest common mesomorph, this is frequently the "big skinny fellow" who is the jumping center on the basketball team, or even an end on the college football team. A 3 5 4 who is 78 inches tall and of college age will normally weigh about 210 pounds but if in athletic training will probably be down to 190 or 185. At 185 pounds, in a baseball uniform, a 78-inch 3 5 4 is likely to seem far more slender than he actually is, perhaps because of the contrast with other, stockier players. A youth of this somatotype appearing on a big league ball team is almost certain to be a pitcher and a tall one. Sports writers will call him "The Beanpole" or something of the sort. One such pitcher is known in sports circles as "The Whip." A baseball writer referred recently to a famous Red Sox outfielder as "that beanpole ectomorph," but this outfielder is no 3 5 4. He is about a 2 6 3.

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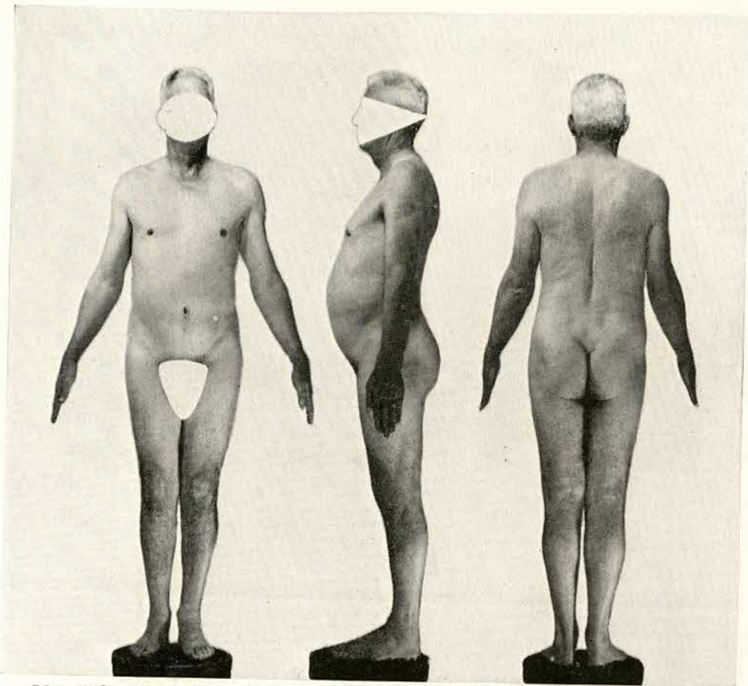
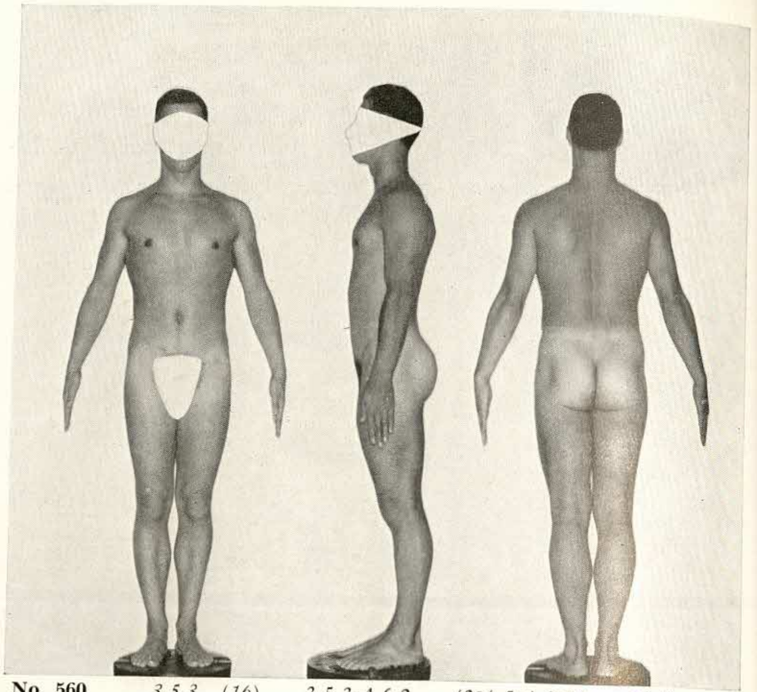
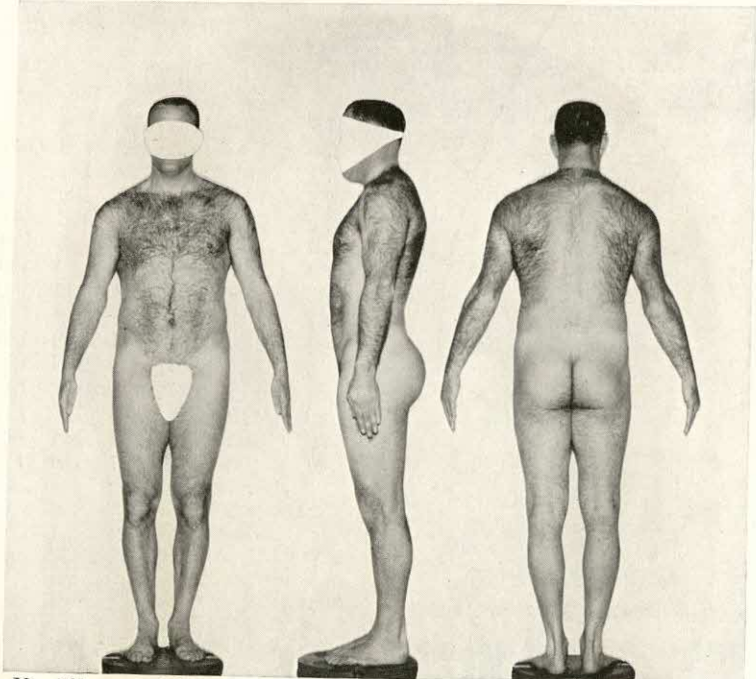


No. 559 *3 5 3* (*15*) 3 5 3–4 5 3 (3½ 5 3) 12.09 at 56
3 5 3, 3½ 4½ 3½, 3½ 5½ 2½, 3½ 5 3, 4 5 2½

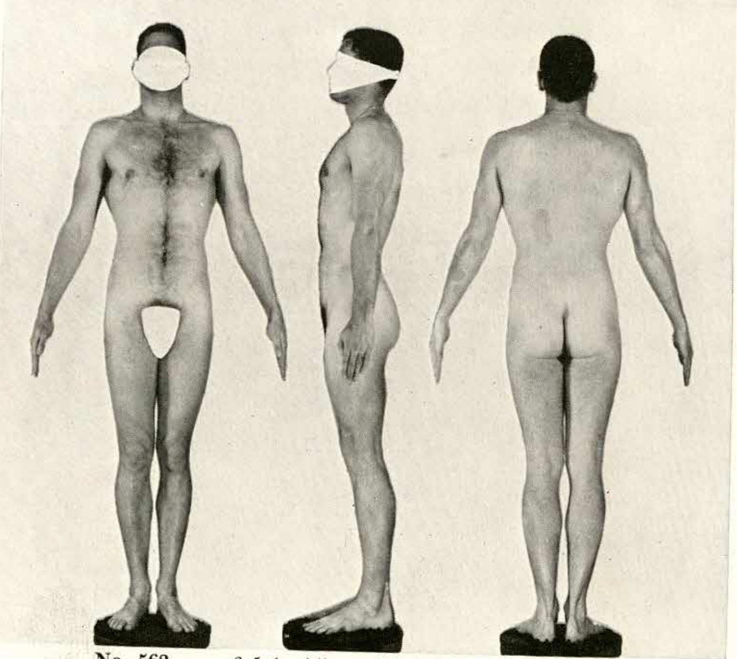


No. 560 *3 5 3* (*16*) 3 5 3–4 6 2 (3½ 5½ 2½) 12.51 at 21
3½ 5½ 3, 3½ 5½ 2, 3½ 5½ 2½, 3½ 5½ 2½, 4 5½ 2½

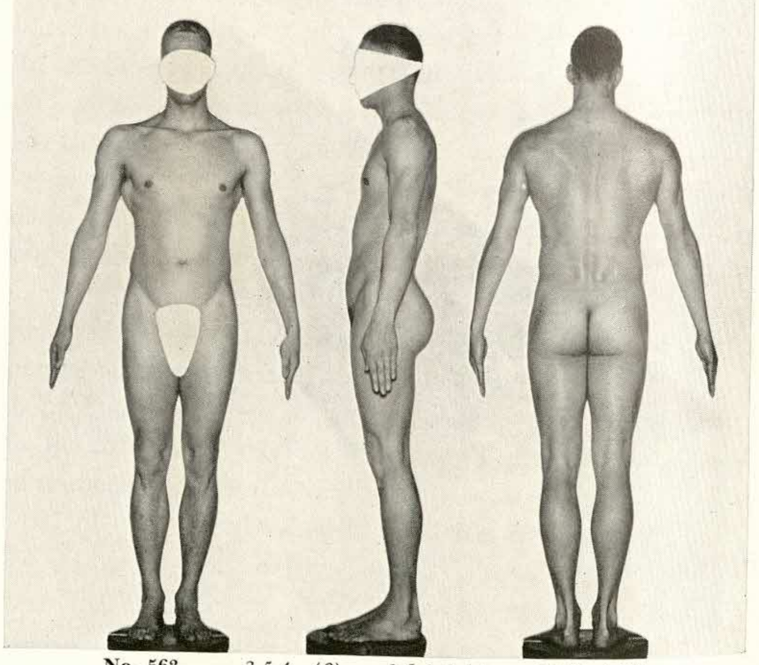


No. 561 *3 5 3* (*17*) 3 5 3–4 6 2 (3½ 5½ 2½) 12.10 at 33
3½ 5½ 2½, 3½ 6 2, 3½ 5 2½, 3½ 6 2, 3½ 5½ 2½

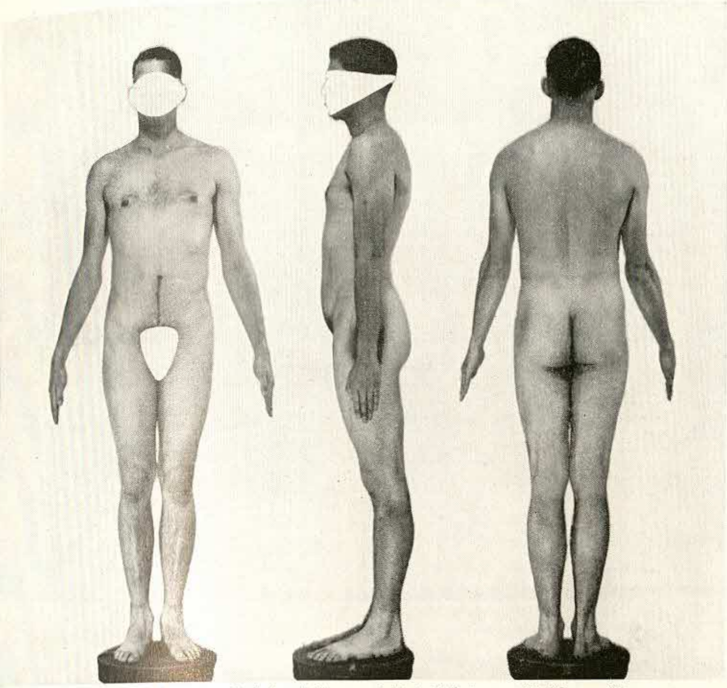
354



No. 562 *3 5 4* (*1*) 3 5 4–3 5 4 13.13 at 18
3 5 3½, 3 5 4, 3 5 4, 3 4½ 4, 3½ 4½ 4½

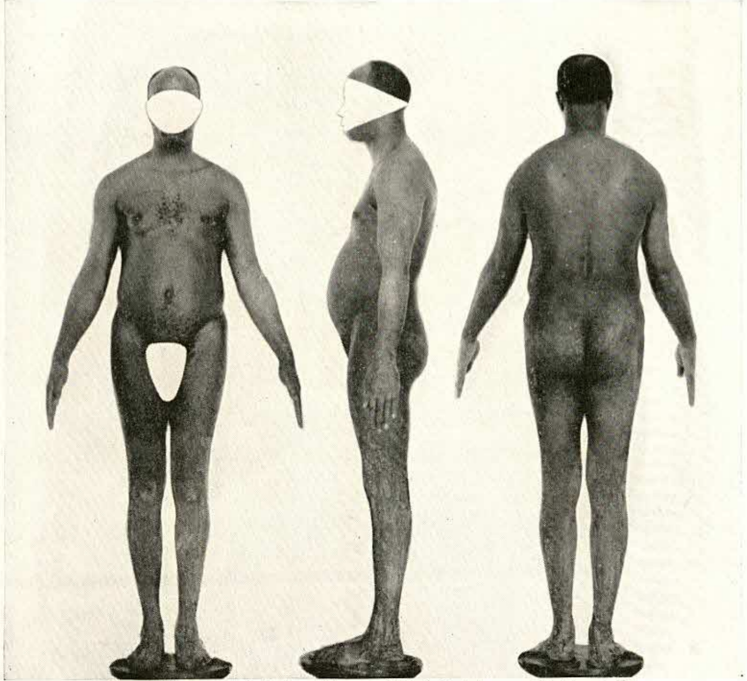


No. 563 *3 5 4* (*2*) 3 5 4–3 5 4 12.95 at 25
2½ 4½ 4½, 2½ 5 4, 3 5 4, 3 5 4, 3 5 4

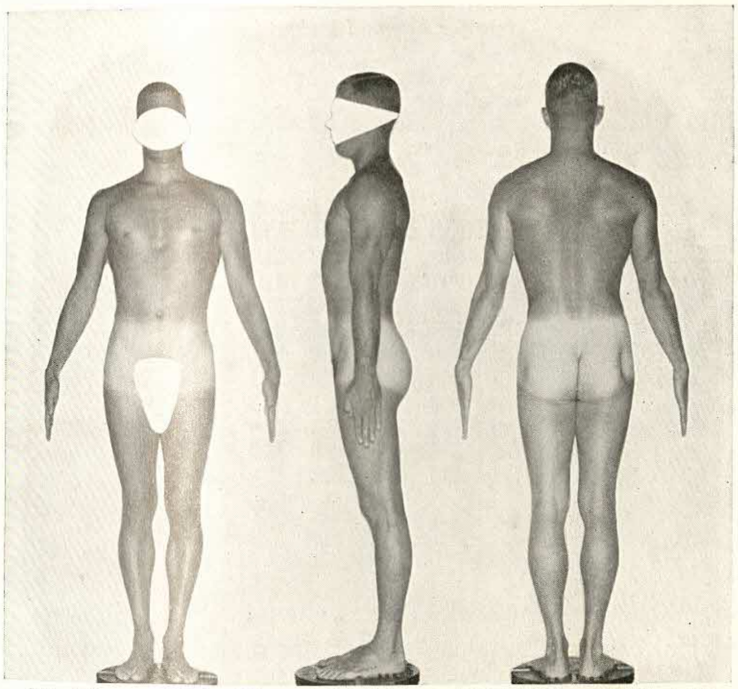


No. 564 *3 5 4* (*3*) 3 5 4–3 5 4 12.89 at 26
3 4½ 4, 3 5 3½, 3 4½ 4½, 3 5 4, 3½ 5 3½

354

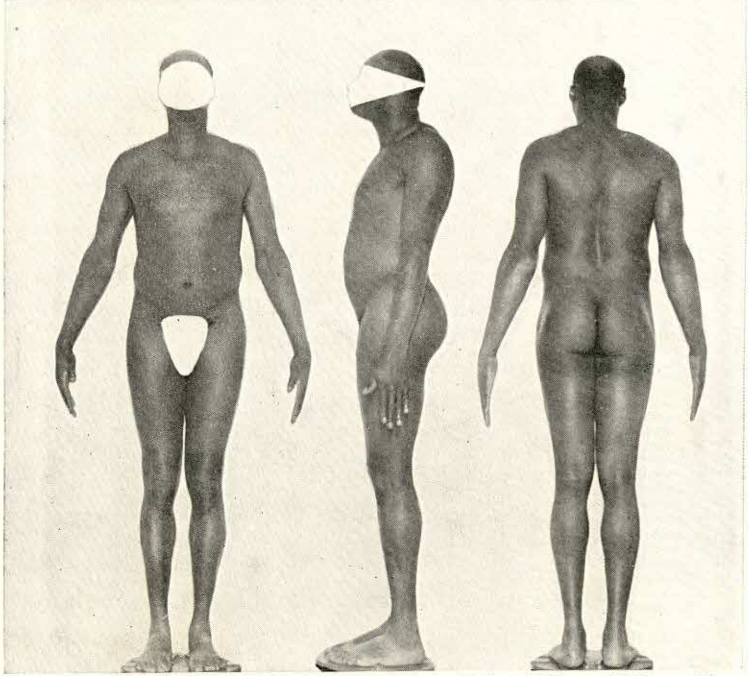


No. 565 *3 5 4* (*4*) 3 5 4–3 5 4 12.44 at 51
3 5 4, 3 5 4, 3 5½ 3, 3 5 3½, 3 4½ 4½

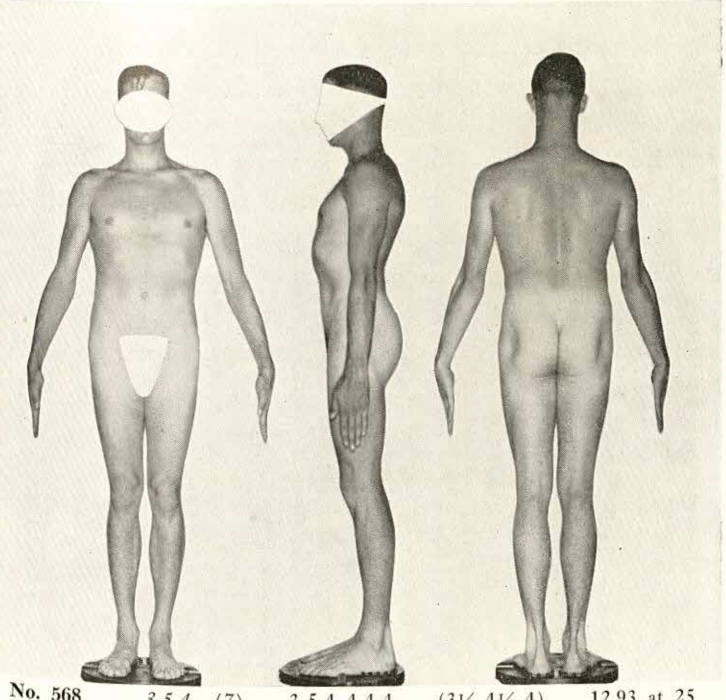


No. 566 *3 5 4* (*5*) 3 5 4–3 6 3 (3 5½ 3½) 12.80 at 22
2½ 5½ 3, 3 5½ 3, 3 5 3½, 3 5½ 3½, 3 5 4

354

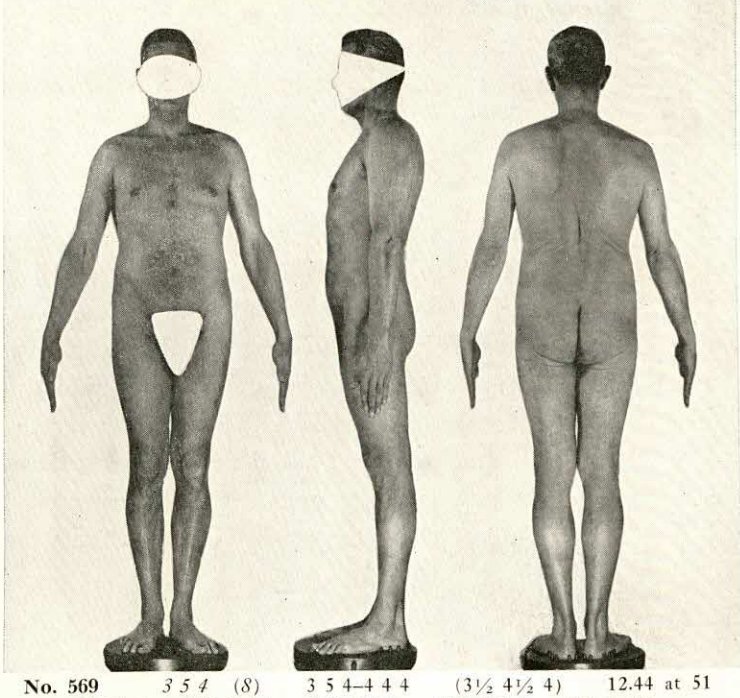


No. 567 *3 5 4* (*6*) 3 5 4–3 6 3 (3 5½ 3½) 12.30 at 46
3 5 3½, 3 5 3½, 3 5 4, 3 5½ 3, 3 5 4



No. 568 *3 5 4* (*7*) 3 5 4–4 4 4 (3½ 4½ 4) 12.93 at 25
3 4½ 4, 3 5 4, 3½ 4½ 4, 3½ 4½ 4, 3½ 4½ 4½

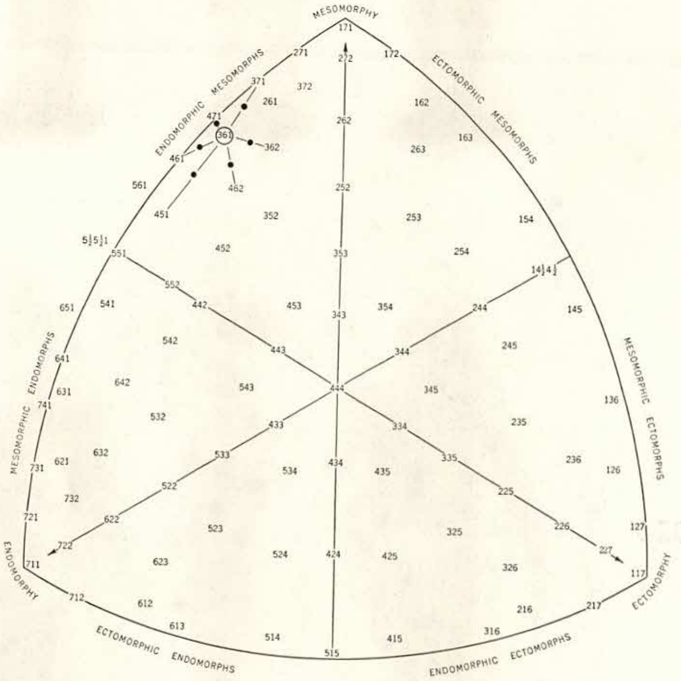
354



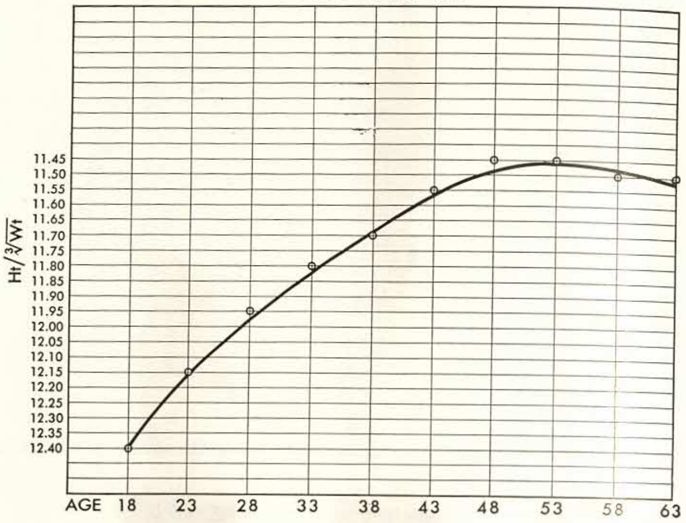
No. 569 *3 5 4* (*8*) 3 5 4–4 4 4 (3½ 4½ 4) 12.44 at 51
3 4½ 4, 3½ 4½ 4, 3½ 4½ 4, 3½ 4½ 4, 3½ 5 3½

20. BETWEEN THE CATS AND THE BEARS

Somatotype 3 6 1 *(Endomorphic extreme mesomorphy, at extreme ectopenia, 10-level.) Wolverines. Sometimes called "cat bears" and also known as "weasel bears." Compact, short legged, giant weasels who know no fear. A wolverine can put to rout a hungry bear and can hold his own against any North American animal except man (who perhaps uses unfair weapons). Nos. 573–591.*



SOMATOTYPE 361



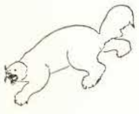
Weight for Age and Height

Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	221	235	247	257	263	275	280	280	278	277
74	211	225	237	247	252	264	269	269	267	266
73	203	217	228	237	242	254	258	258	256	255
72	195	208	219	227	233	244	248	248	246	245
71	187	200	211	219	224	234	238	238	236	235
70	180	192	202	210	215	225	228	228	227	226
69	172	184	194	202	206	215	219	219	217	216
68	165	176	185	193	197	206	210	210	208	207
67	158	168	177	184	188	197	200	200	199	198
66	151	161	169	176	180	188	191	191	190	189
65	144	154	161	168	172	179	182	182	181	180
64	137	146	154	160	164	171	174	174	173	172
63	131	140	147	153	157	163	166	166	165	164
62	124	133	140	146	149	156	158	158	157	156
61	119	127	133	139	142	148	151	151	150	149

Rarity 4. Incidence 2 per thousand. If the extreme mesomorphs at the 2-level in endomorphy are comparable to great cats, and those at the 4-level suggest the bears, perhaps it will be a happy compromise to call the 3 6 1 a cat bear, and to name his three fierce cousins (3 6 2, 3 7 1 and 3 7 2) after some great cats of the Pleistocene past, who indeed were much heavier than modern cats and may well have been somewhat bearlike in their outlook and behavior.

With this somatotype we move into true heavyweight territory, where a youth of only five feet seven inches, weighing 158 pounds, may be expected normally to reach 200 pounds before he is 50, provided his cardiovascular equipment is sufficiently sound to stand until then the strain of maintaining and feeding one of the most powerful of human engines. Should the cardiovascular equipment be only ordinary, or if it contains some weak link that will not stand the strain of the terrific vitality of the 3 6 1 musculo-skeletal system, there may be a coronary or cerebral "accident," or perhaps some other crippling breakdown which will slow down this powerful motor and so will possibly prolong life.

Drs. Menard Gertler, Stanley Garn and Paul White, reporting in 1951[1] on a study of early coronary disease in the male, at the Massachusetts General Hospital, found that this is indeed a malady of endomorphic mesomorphs. In their sample of 97 men who had suffered from a severe coronary episode prior to age 40, it was found that 56, or 58 per cent, were endomorphic mesomorphs. The mesomorphic predominance among coronary patients has been further confirmed on autopsy material by Spain.[2]



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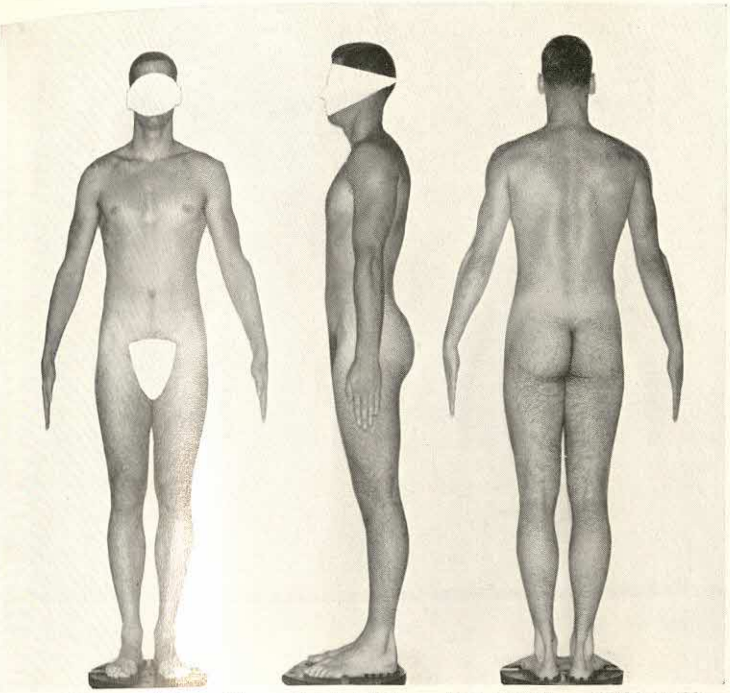
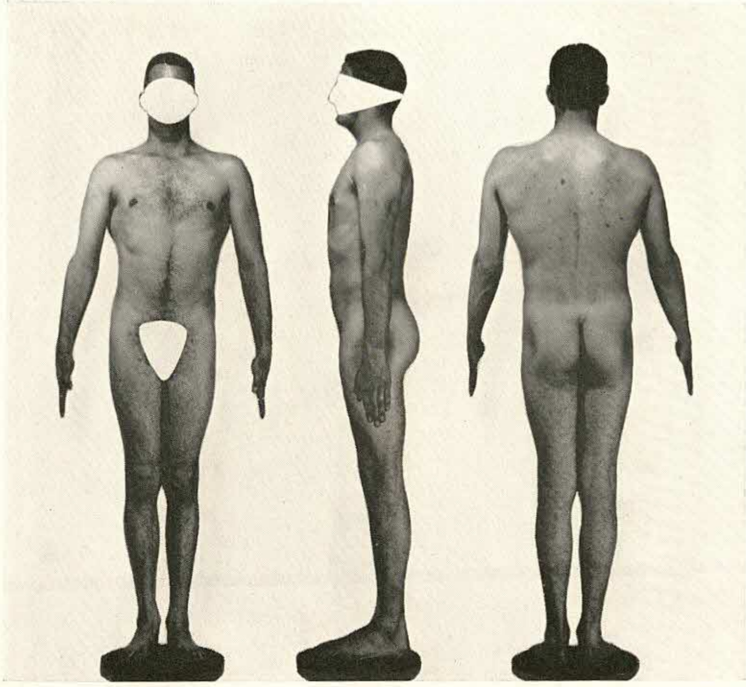
[1] Gertler, M., Garn, S., and White, P.: *Young Candidates for Coronary Heart Disease.* J. Am. Med. Assn., 147, 621-25, 1951.

[2] Spain, David M. *et al.*: Ann. Int. Med. 38, 254-77, 1953.

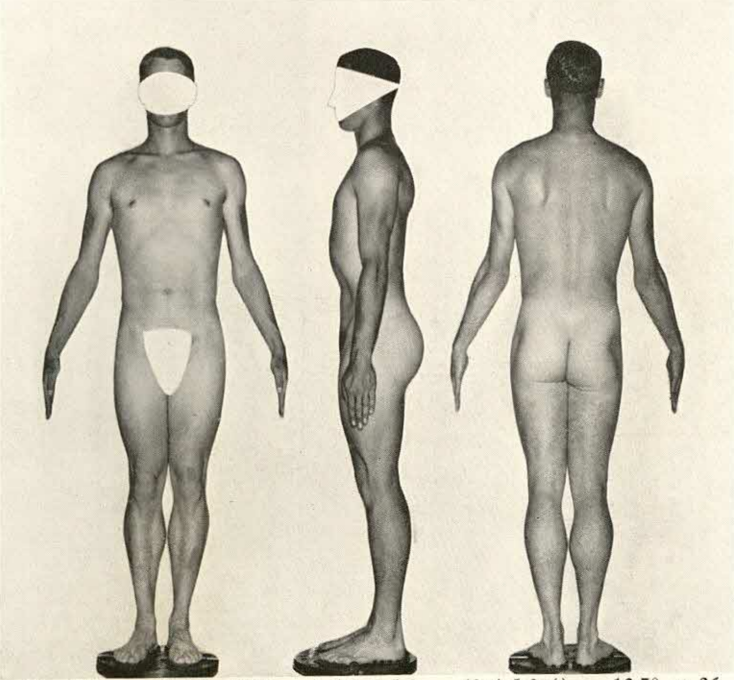


No. 570 *3 5 4* *(9)* 3 5 4–4 5 3 (3½ 5 3½) 12.93 at 20
3 5 4, 3½ 5 3½, 3½ 5½ 3, 3½ 5 3½, 3½ 5 3½

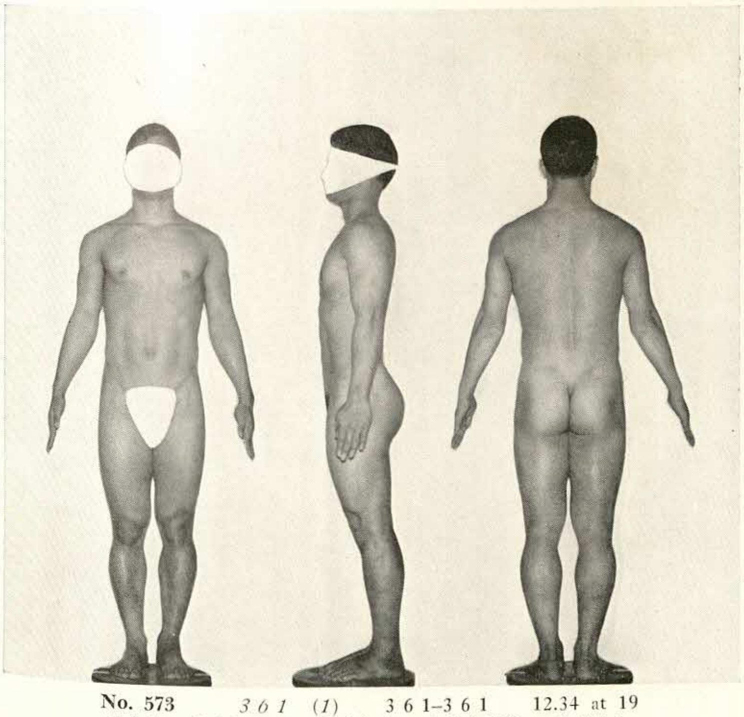
354



No. 571 *3 5 4* *(10)* 3 5 4–4 5 3 (3½ 5 3½) 12.82 at 24
3½ 5 3, 3½ 5½ 3, 3½ 5½ 3, 3½ 5 3½, 3½ 4½ 4

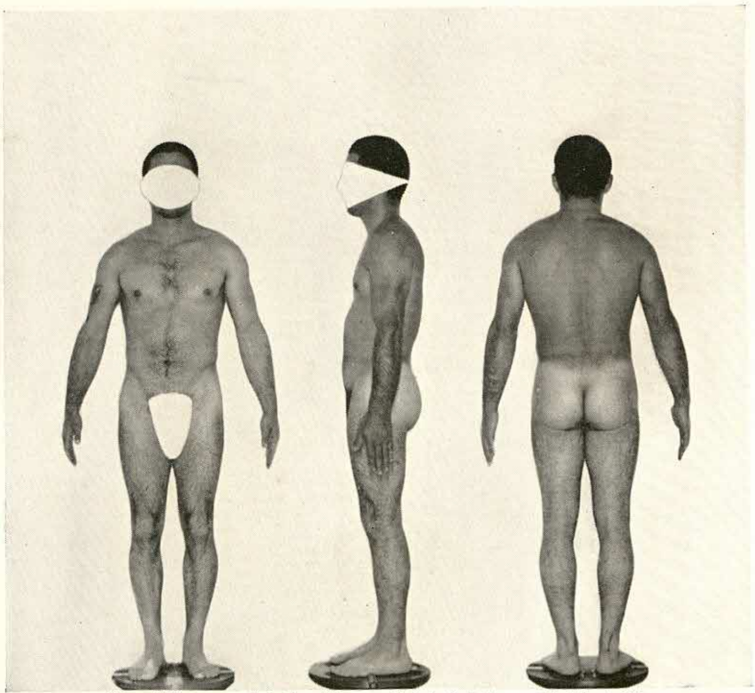


No. 572 *3 5 4* *(11)* 3 5 4–4 5 3 (3½ 5 3½) 12.70 at 26
3½ 5 3½, 3½ 5 3½, 3 5 4, 3½ 5 3½, 4 5 3

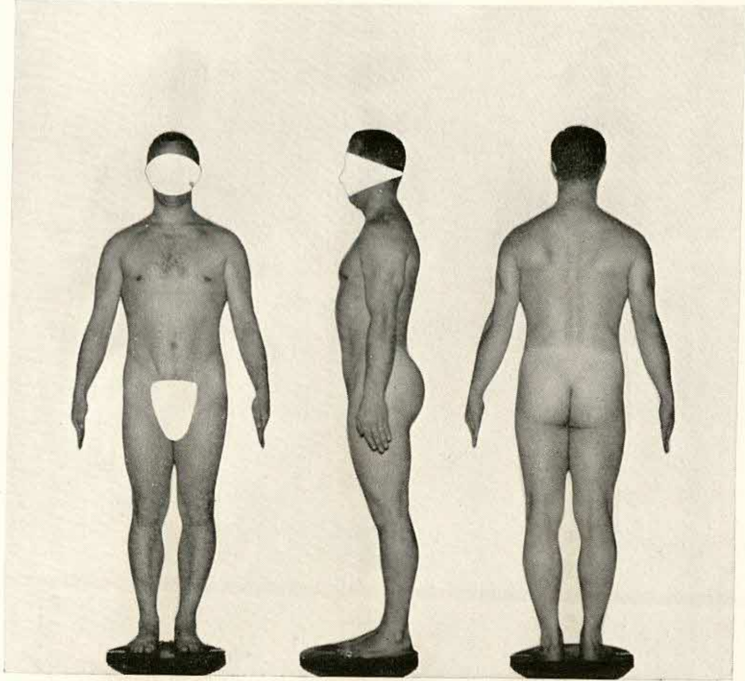


No. 573 *3 6 1* *(1)* 3 6 1–3 6 1 12.34 at 19
3 6 1, 3 6 1, 3½ 5½ 1½, 3 5½ 1½, 3 6½ 1

361

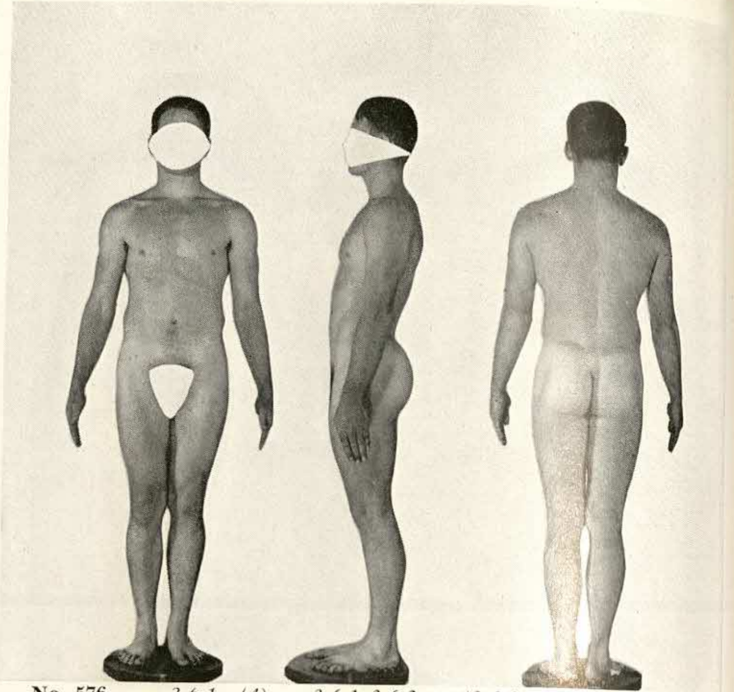


No. 574 *3 6 1* *(2)* 3 6 1–3 6 1 12.15 at 24
3½ 6 1, 3 6 1½, 3 6 1, 3 6 1, 3 5½ 1½

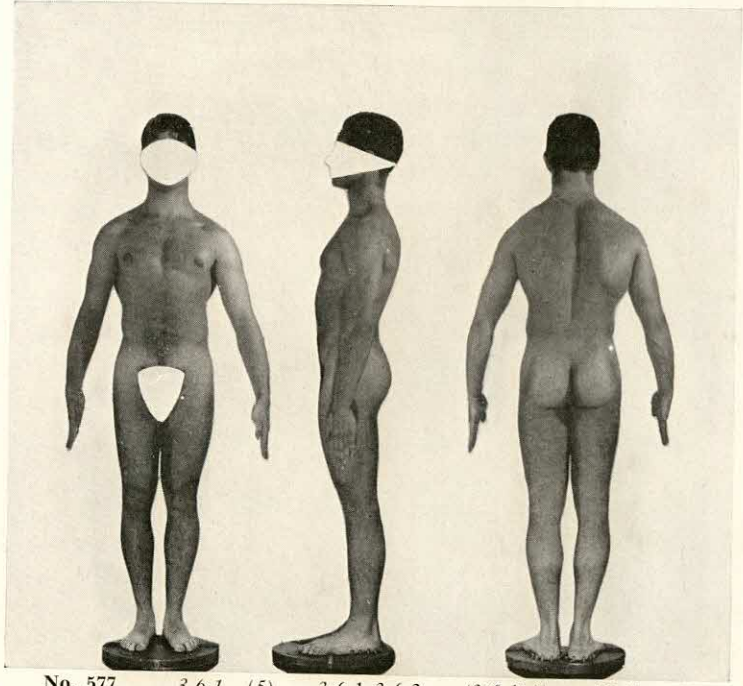


No. 575 *3 6 1* (*3*) 3 6 1–3 6 1 11.90 at 30
3½ 5½ 1½, 3 6½ 1, 3 6 1, 3 6½ 1, 3 6½ 1

361

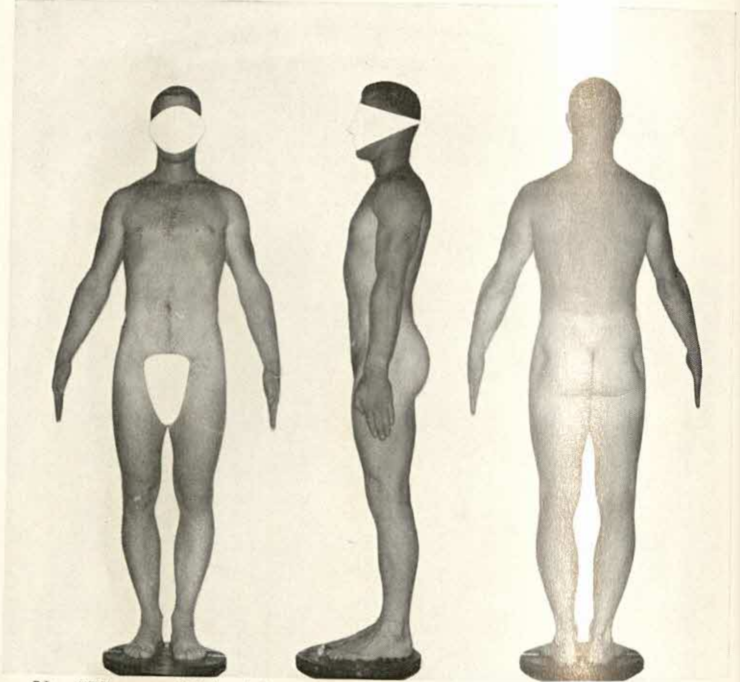


No. 576 *3 6 1* (*4*) 3 6 1–3 6 2 (3 6 1½) 12.46 at 19
3½ 5½ 1½, 3 6 1½, 3 6 1½, 3 6 1½, 3½ 5½ 1½

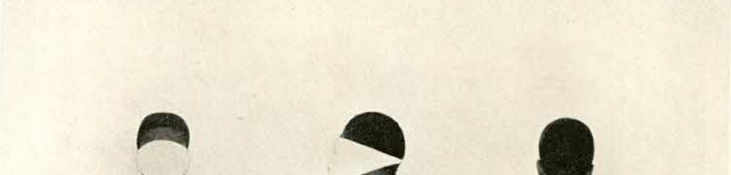


No. 577 *3 6 1* (*5*) 3 6 1–3 6 2 (3 6 1½) 12.45 at 19
3 6 1½, 2½ 7 1, 3½ 5½ 1½, 3 5½ 1½, 4 5½ 1½

361

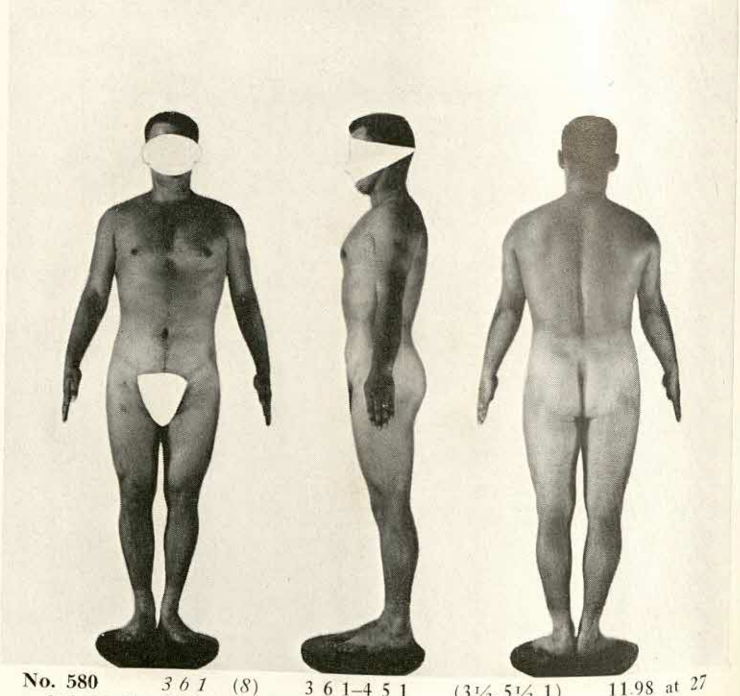


No. 578 *3 6 1* (*6*) 3 6 1–3 6 2 (3 6 1½) 12.28 at 22
3 5½ 1½, 3 6 1½, 3 6 1½, 3 6 1½, 3 6 1½

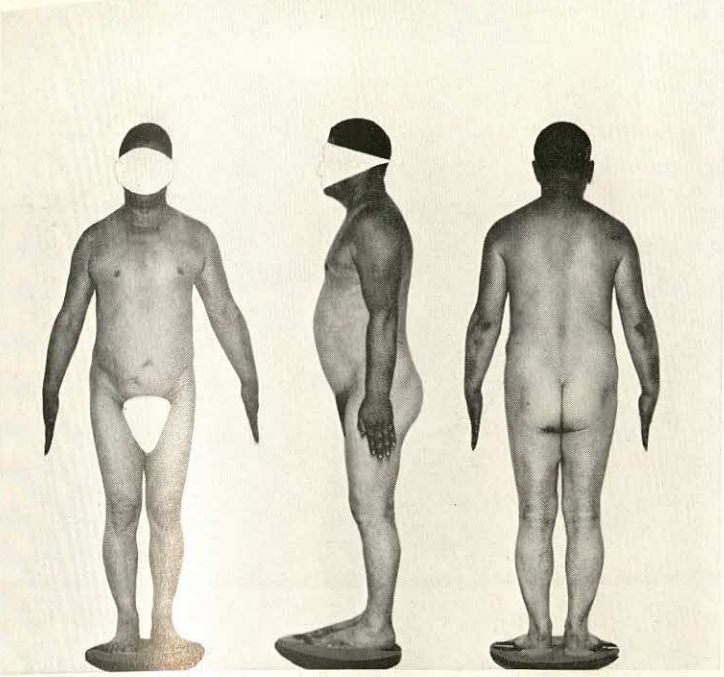


No. 579 *3 6 1* (*7*) 3 6 1–3 7 1 (3 6½ 1) 11.90 at 25
3 7 1, 3 6½ 1, 3 6 1½, 3 7 1, 3½ 6½ 1½

361

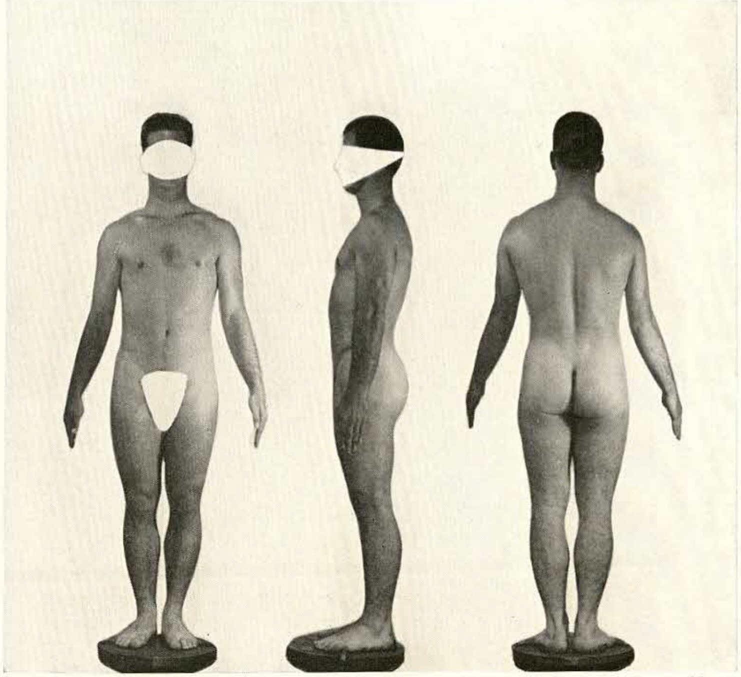


No. 580 *3 6 1* (*8*) 3 6 1–4 5 1 (3½ 5½ 1) 11.98 at 27
3½ 5½ 1, 3½ 6½ 1, 3½ 5½ 1, 3½ 5½ 1½, 3½ 5½ 1½

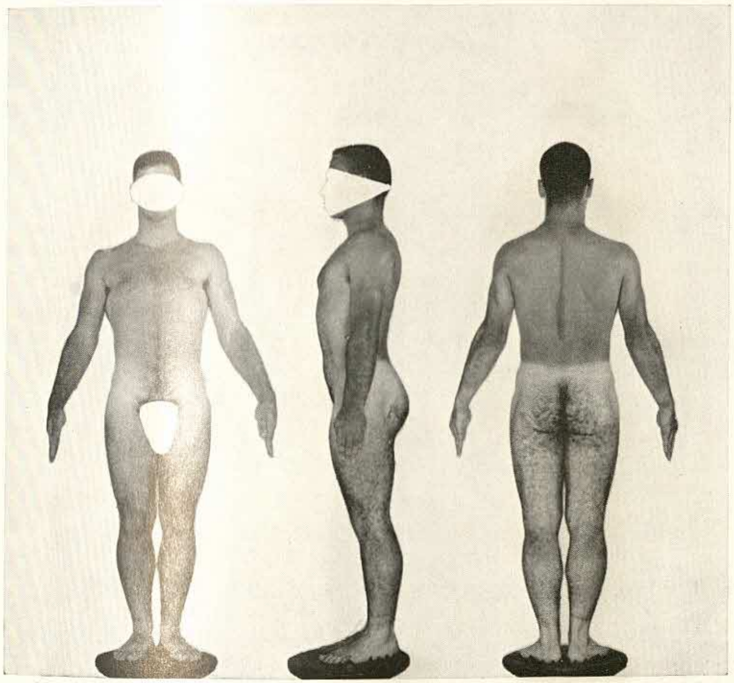


No. 581 *3 6 1 (9)* 3 6 1–4 5 1 (3½ 5½ 1) 11.40 at 54
4 5½ 1, 3½ 6 1, 3½ 6 1, 4 5½ 1, 3½ 5½ 1

361

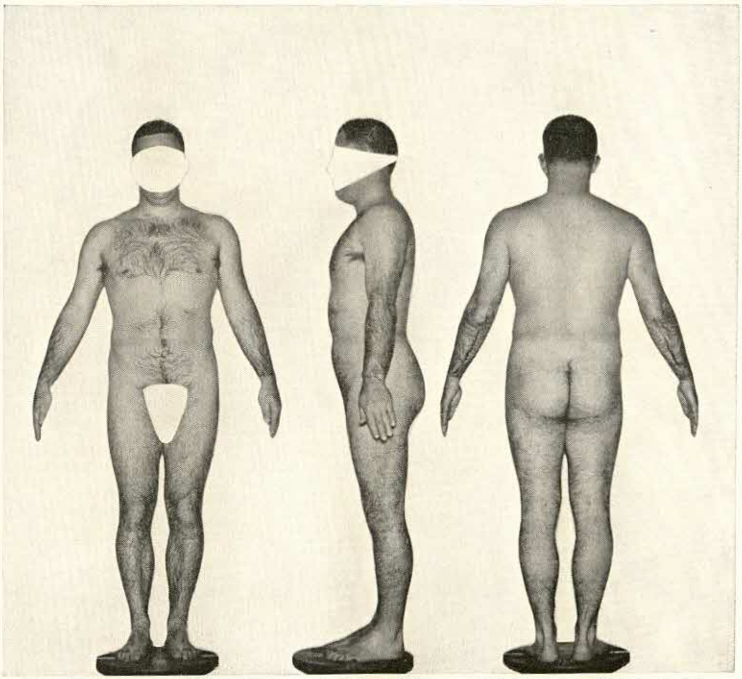


No. 582 *3 6 1 (10)* 3 6 1– 4 6 1 (3½ 6 1) 12.23 at 19
3½ 5½ 1½, 3 6 1, 3½ 5½ 1, 3½ 6 1½, 4 6 1

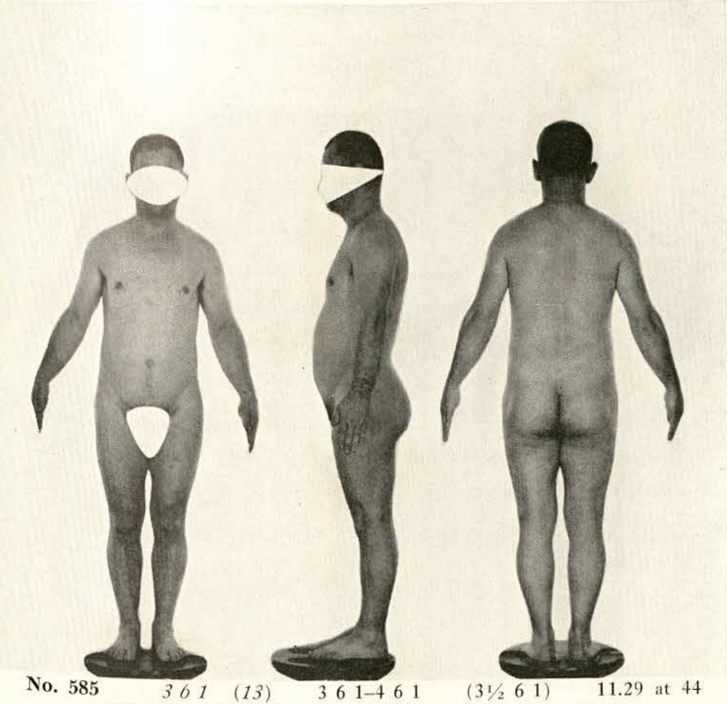


No. 583 *3 6 1 (11)* 3 6 1–4 6 1 (3½ 6 1) 11.99 at 23
3½ 5½ 1½, 3½ 6 1, 3½ 6 1, 3 6 1, 4 6½ 1

361

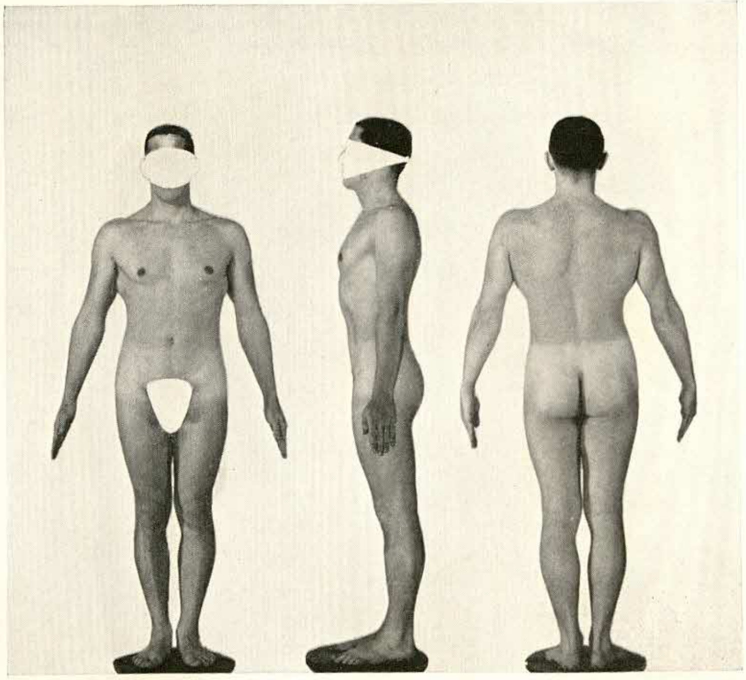


No. 584 *3 6 1 (12)* 3 6 1–4 6 1 (3½ 6 1) 11.76 at 28
4 6 1, 3½ 6 1, 3½ 6 1, 4 6 1, 3½ 6 1

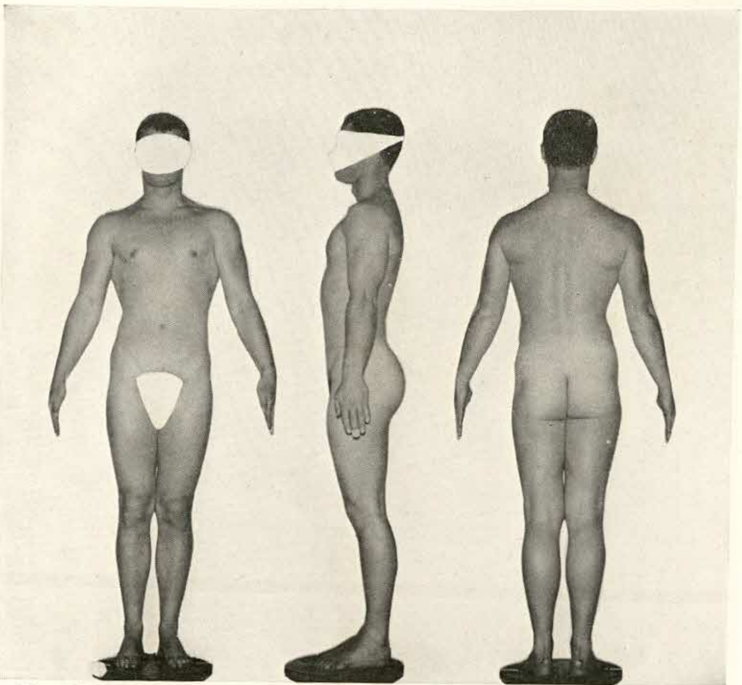


No. 585 *3 6 1 (13)* 3 6 1–4 6 1 (3½ 6 1) 11.29 at 44
3½ 6 1, 3½ 5½ 1½, 4 5½ 1, 3½ 6 1, 4 6 1

361

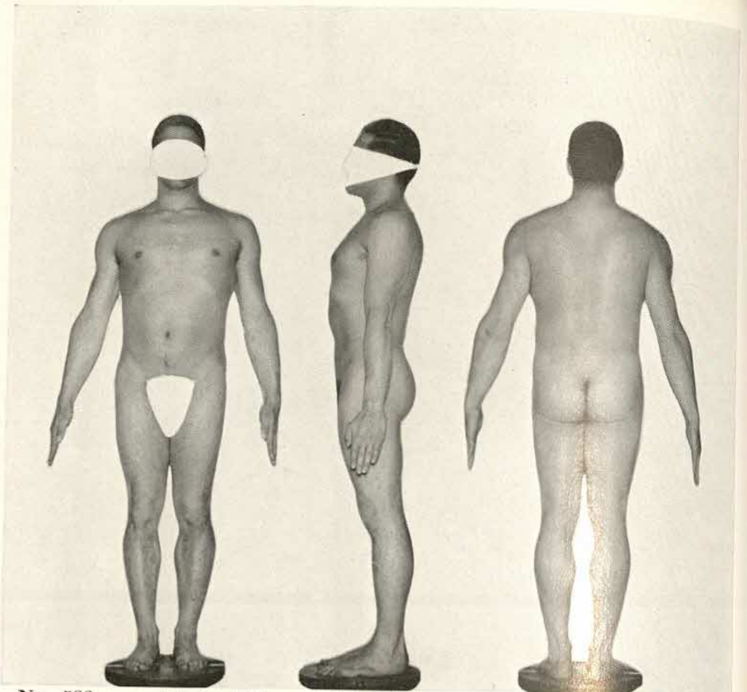


No. 586 *3 6 1 (14)* 3 6 1–4 6 2 (3½ 6 1½) 12.36 at 19
3½ 6 1½, 3 6½ 1½, 3½ 5½ 2, 3½ 5½ 2, 3½ 6 1½

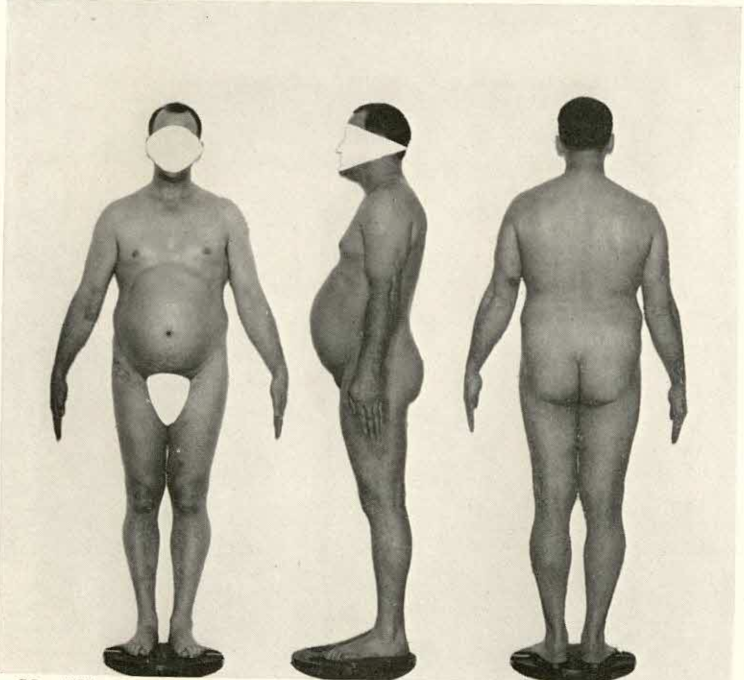


No. 587 *3 6 1* (*15*) 3 6 1– 4 6 2 (3½ 6 1½) 12.15 at 22
3 5½ 1½, 3½ 6 1½, 3½ 6 1, 3½ 6 2, 4 5½ 1½

361

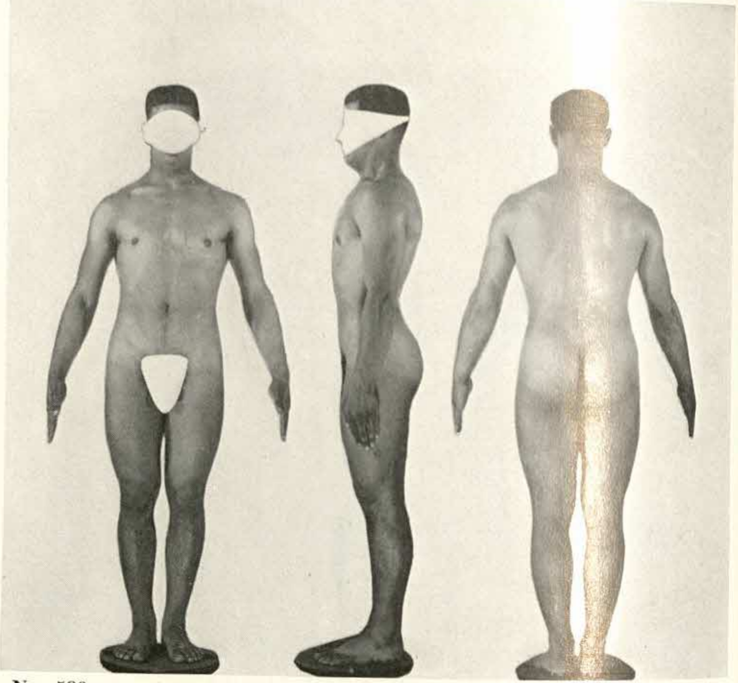


No. 588 *3 6 1* (*16*) 3 6 1–4 6 2 (3½ 6 1½) 11.93 at 28
3½ 6 1½, 3½ 6½ 1½, 3 6½ 1½, 3½ 6 1½, 3½ 6 1½

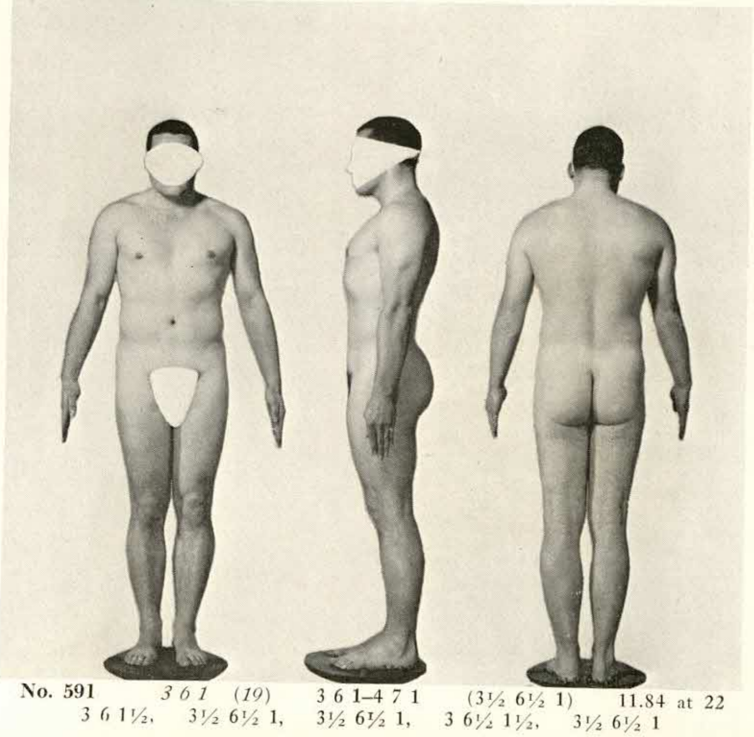


No. 589 *3 6 1* (*17*) 3 6 1–4 6 2 (3½ 6 1½) 11.48 at 41
3 5½ 2, 3½ 6 1½, 3½ 6 1, 4 5½ 1½, 3½ 6 1½

361

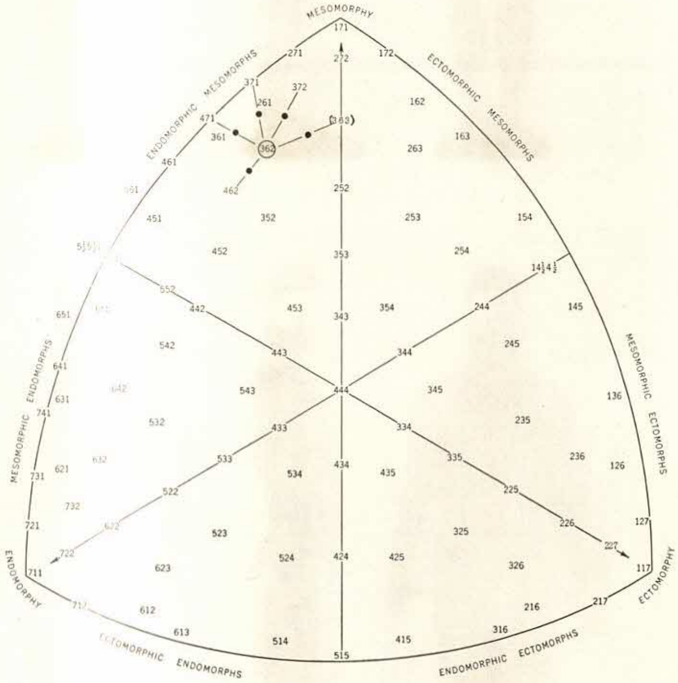


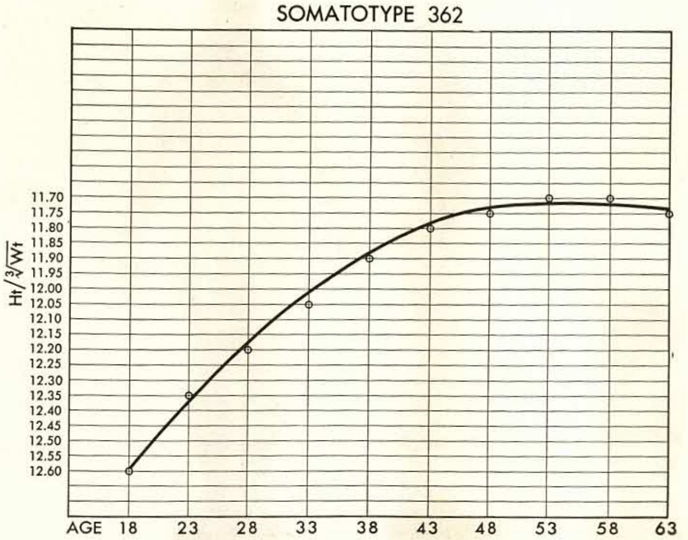
No. 590 *3 6 1* (*18*) 3 6 1–4 7 1 (3½ 6½ 1) 12.10 at 18
3½ 6½ 1, 3½ 6½ 1, 3½ 7 1, 3 6½ 1½, 4 6½ 1½



No. 591 *3 6 1* (*19*) 3 6 1–4 7 1 (3½ 6½ 1) 11.84 at 22
3 6 1½, 3½ 6½ 1, 3½ 6½ 1, 3 6½ 1½, 3½ 6½ 1

Somatotype 3 6 2 *(Endomorphic extreme mesomorphy, 11-level.) Pleistocene cougar. The panther or puma of the American Pleistocene. Heavier than the modern cougar, probably less agile. Less powerfully built than the great saber-tooth bobcat, but Harvard could use a few in her forward line. Nos. 592–608.*



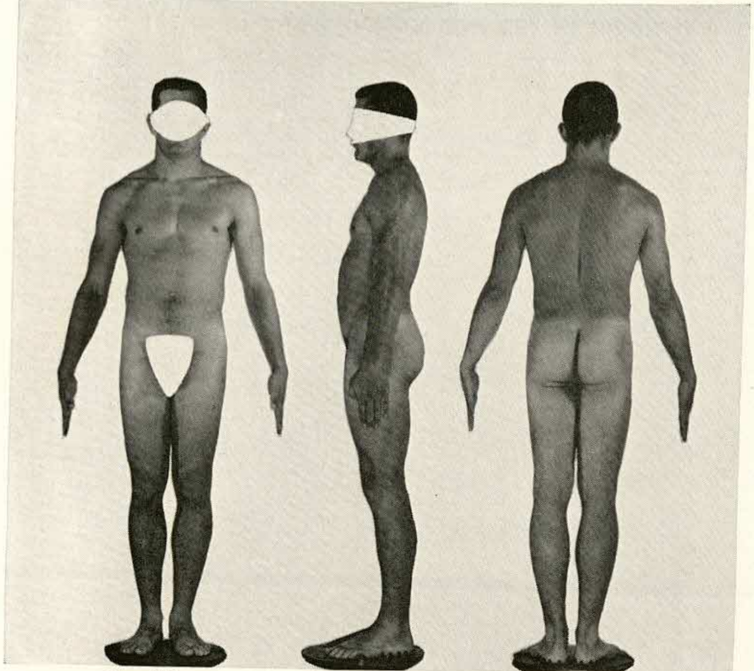


Weight for Age and Height

Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	211	221	230	240	249	255	258	262	262	260
74	204	213	221	231	239	245	248	251	251	249
73	196	204	213	221	230	235	238	241	241	239
72	188	196	205	213	221	226	229	232	232	230
71	181	189	197	205	212	217	221	223	223	221
70	173	181	189	196	204	208	212	214	214	212
69	166	174	181	188	195	200	203	205	205	203
68	159	166	173	180	187	191	194	196	196	194
67	152	159	166	172	179	182	186	187	187	186
66	145	152	158	165	170	174	178	179	179	177
65	138	145	151	157	163	166	169	171	171	169
64	132	138	144	150	155	159	162	163	163	162
63	126	132	137	143	148	151	154	156	156	154
62	120	125	131	136	141	144	147	148	148	147
61	114	119	125	130	135	137	140	141	141	140

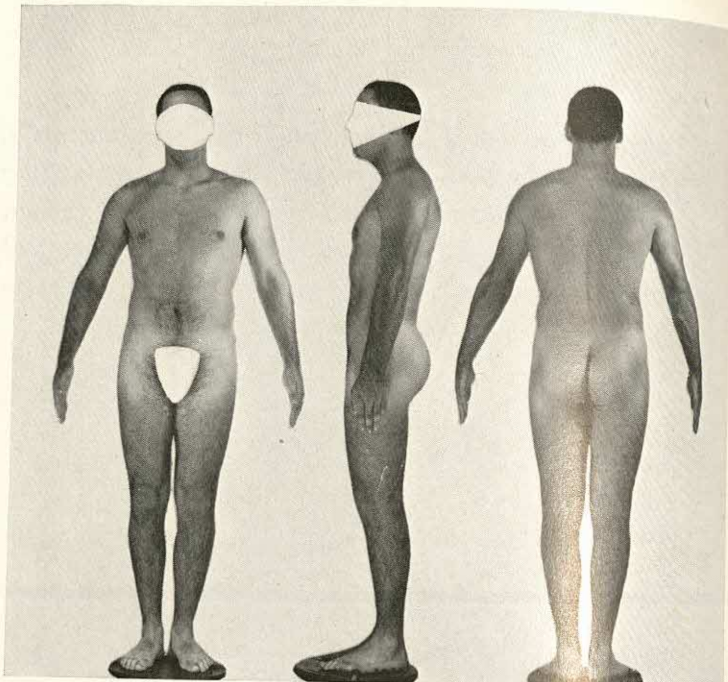
Rarity 2. Incidence 18 per thousand. Commonest extreme mesomorph, and the commonest somatotype found at the strength of 6 in any component. Of nearly twice as frequent occurrence as the 2 6 2, and whoever watches a big league ball game is virtually certain to see a number of them in action.

In all the Northwestern somatotypes, particularly when extreme mesomorphy is involved, we encounter in certain individuals a remarkable weight lability. The 3 6 2 is big, and is frequently tall. He is "burly," and is probably the commonest of big, burly men. As an average, a six footer of this somatotype will weigh about 188 at college age and will put on about 44 pounds to reach his maximal 232 at around 50. But temperamentally the 3 in endomorphy means love of food, and the 2 in ectomorphy means that the inhibitory, self-restraining component is comparatively weak. The 6 in mesomorphy means that there is a huge frame within which to store fat. One not infrequently sees, therefore, a *gluttonous* 3 6 2 with little self-restraint about eating—or perhaps about anything—who will stuff himself to the bursting point. People of this sort usually run, for some reason as yet unknown, a *cyclic* course in their weight, very much as they do in their social behavior when they are psychotic (manic-depressive psychosis). They go to extreme weight, reaching a point possibly 40 pounds beyond their normal, and after a time (if something does not burst) a corrective factor seems to take over and they go to the other extreme. This pattern of weight lability is especially common in men of about 3 6 2 somatotype who have both manic-depressive and paranoid psychopathy.

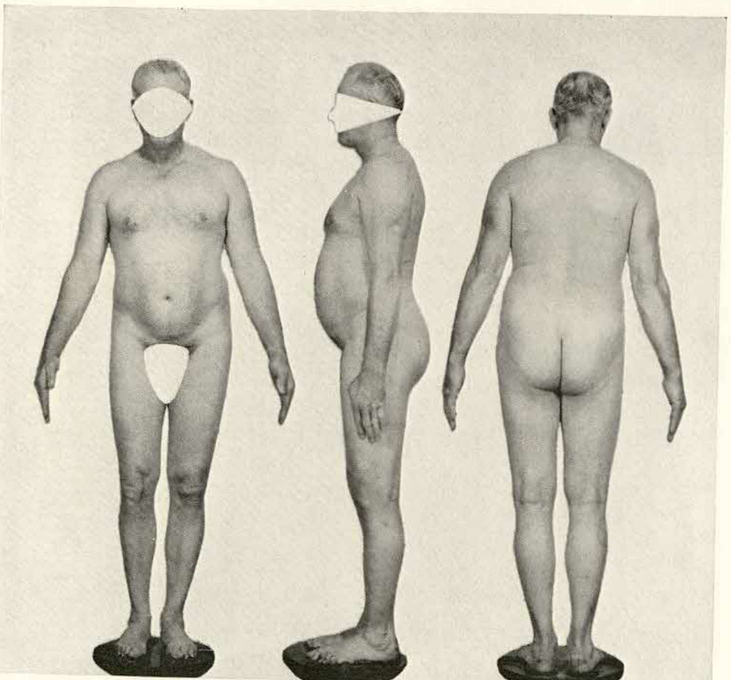


No. 592 *3 6 2 (1)* 3 6 2–3 6 2 12.59 at 18
3 6½ 1½, 2½ 6 2½, 2½ 6½ 1½, 3 6 2, 3 6 2

362

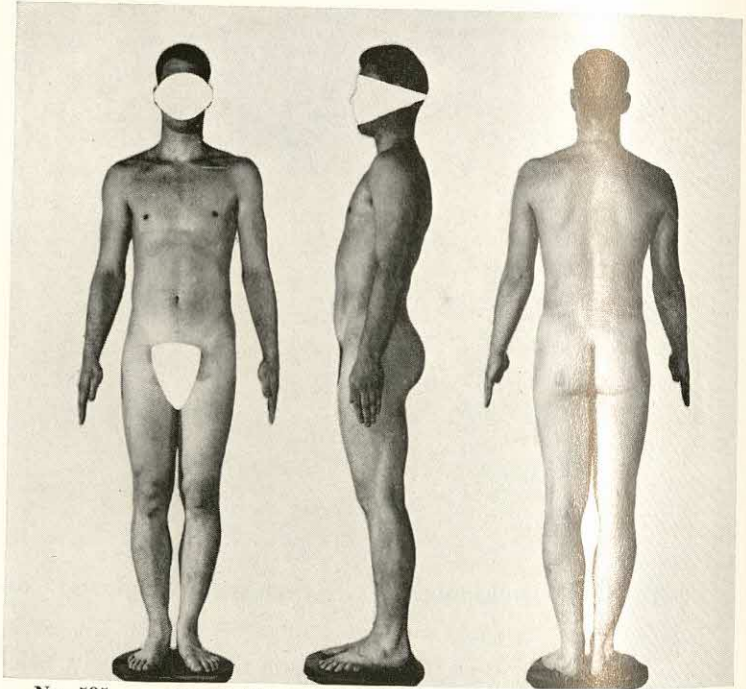


No. 593 *3 6 2 (2)* 3 6 2–3 6 2 12.35 at 24
3½ 5½ 2, 3 6 2, 3 6 1, 3 6 2, 3½ 6 2

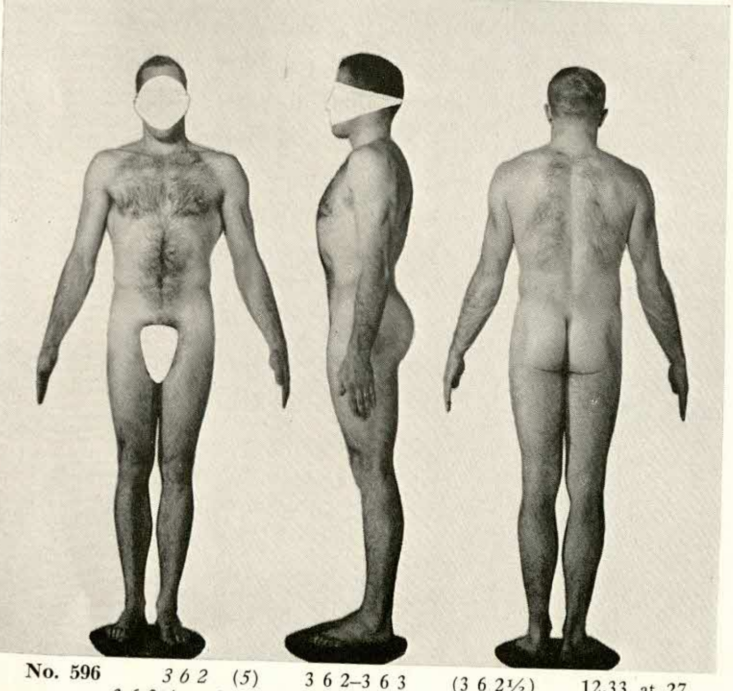


No. 594 *3 6 2 (3)* 3 6 2–3 6 2 11.75 at 59
3 5½ 2½, 3 6½ 1½, 3 6 2, 3 6 1½, 3 6 2

362

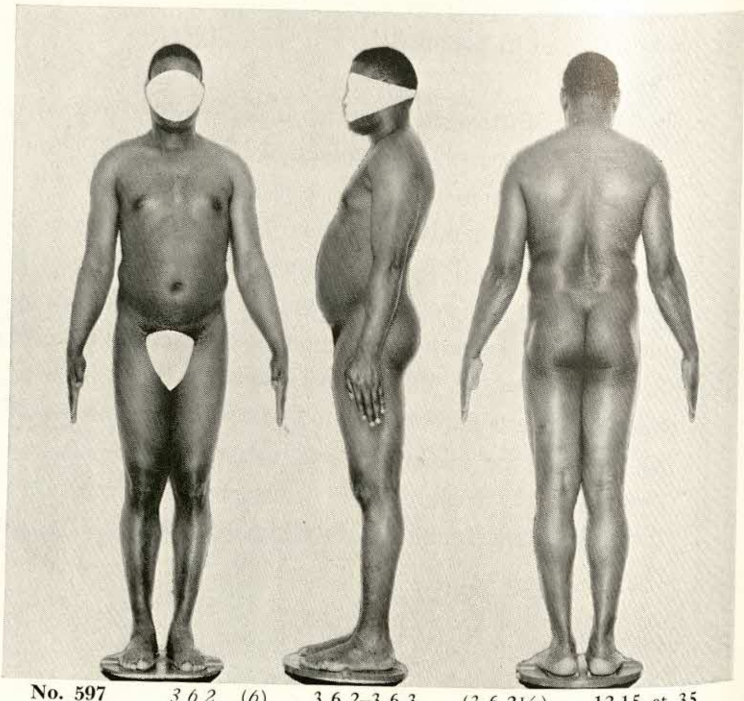


No. 595 *3 6 2 (4)* 3 6 2–3 6 3 (3 6 2½) 12.50 at 24
3 5½ 2½, 3 5½ 2½, 3 6 2, 2½ 6 2½, 3½ 6½ 2



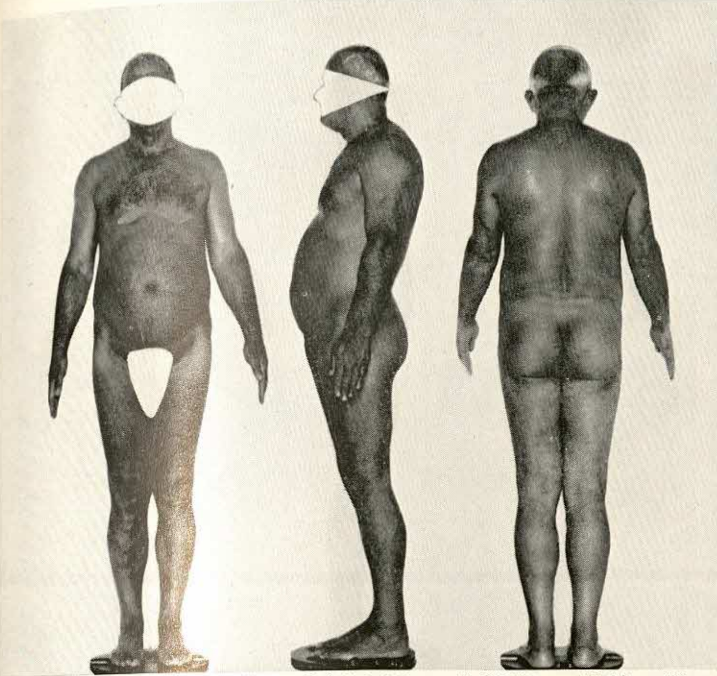
No. 596 *3 6 2 (5)* 3 6 2–3 6 3 (3 6 2½) 12.33 at 27
3 6 2½, 3 6 2½, 3 6 2½, 2½ 6 2, 3 6 2½

362

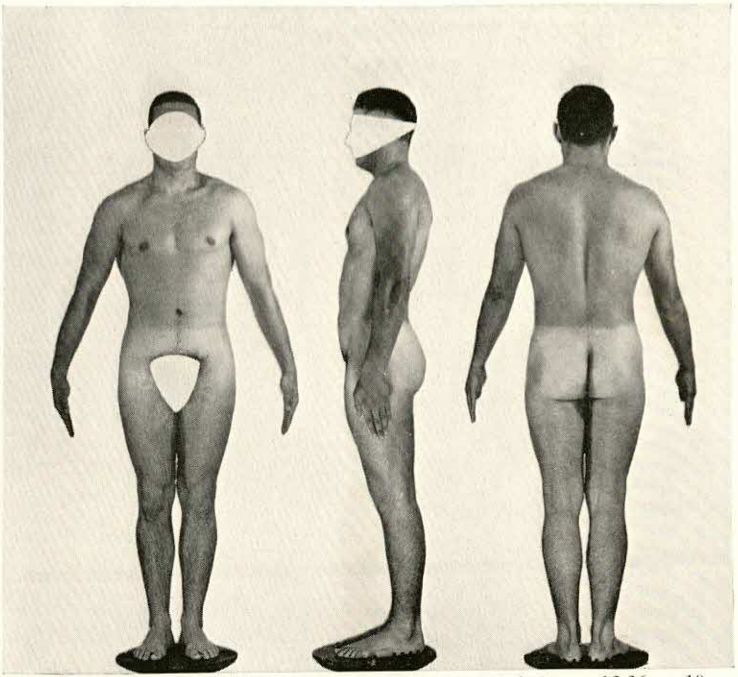


No. 597 *3 6 2 (6)* 3 6 2–3 6 3 (3 6 2½) 12.15 at 35
3 6½ 2, 3 6 2½, 3 6 2½, 3 6½ 2, 3½ 6 2½

362

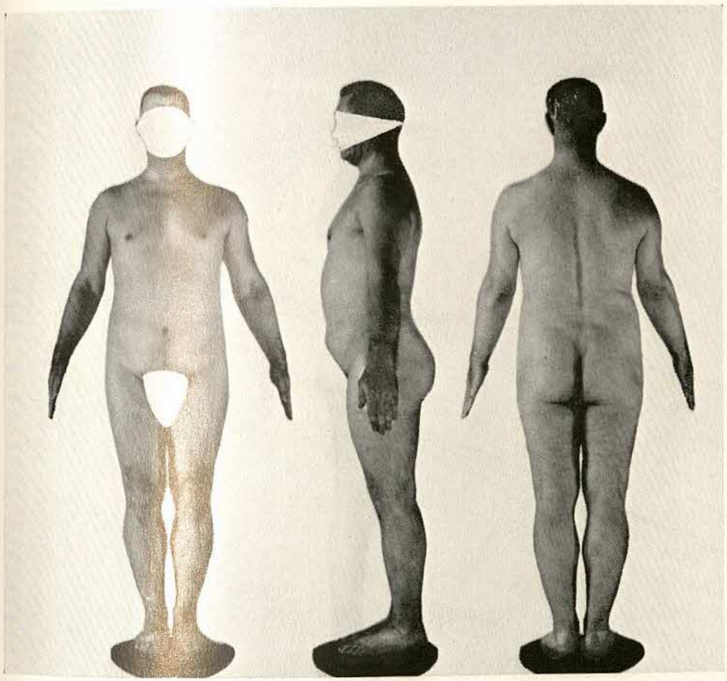


No. 598 *3 6 2* (*7*) 3 6 2–3 6 3 (3 6 2½) 11.90 at 62
3 6 2½, 3 6 2½, 3 6½ 2, 3 6 2½, 3½ 6 2

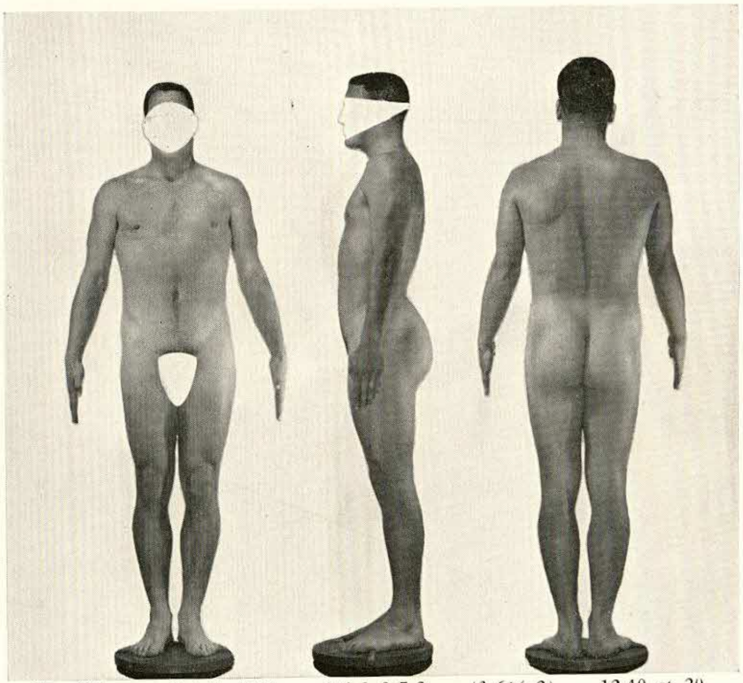


No. 599 *3 6 2* (*8*) 3 6 2–3 7 1 (3 6½ 1½) 12.36 at 18
3 6½ 1½, 3 6½ 1½, 3 6 2, 3 6½ 1½, 3 6½ 1½

362

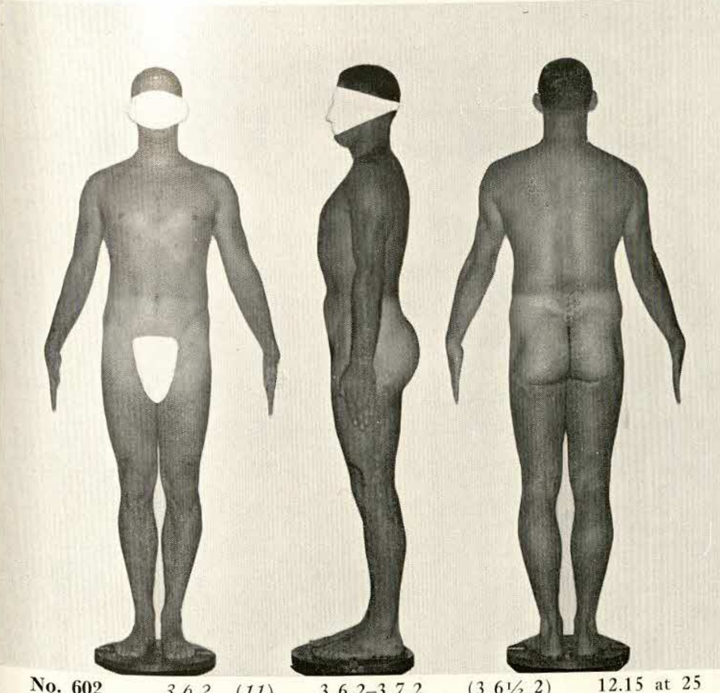


No. 600 *3 6 2* (*9*) 3 6 2–3 7 1 (3 6½ 1½) 11.45 at 47
3 5½ 2, 3 6½ 1½, 3 7 1, 3½ 6½ 1½, 3½ 7 1

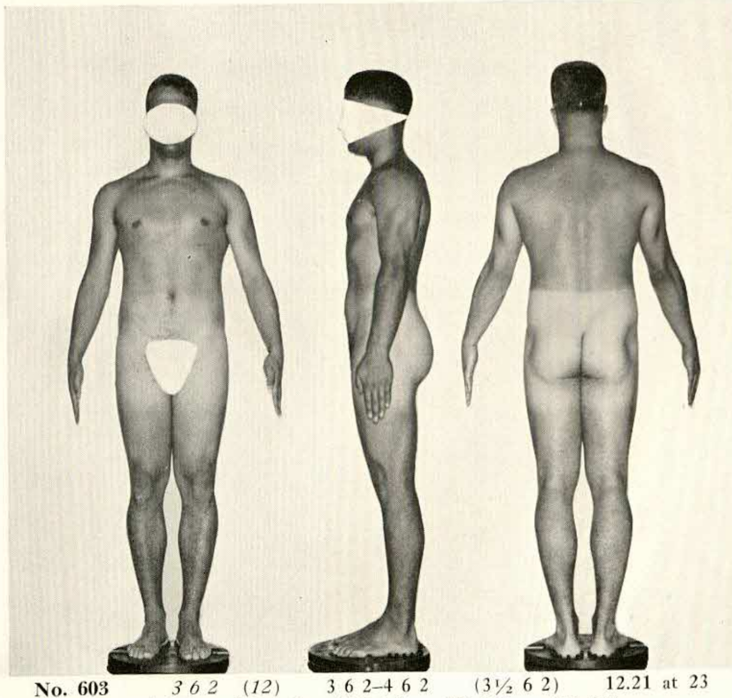


No. 601 *3 6 2* (*10*) 3 6 2–3 7 2 (3 6½ 2) 12.40 at 20
3 6½ 1½, 3 6½ 2, 3 6 2, 3 6½ 2, 3 6½ 2

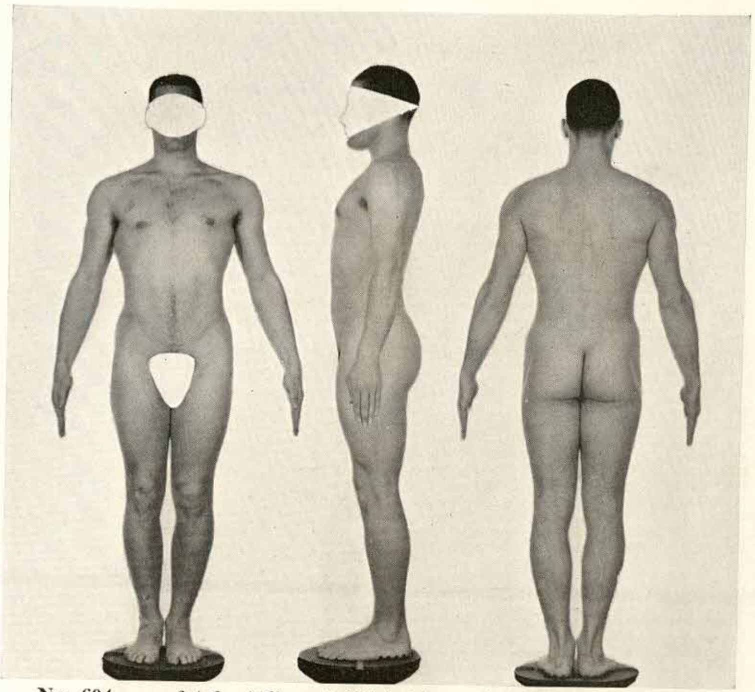
362



No. 602 *3 6 2* (*11*) 3 6 2–3 7 2 (3 6½ 2) 12.15 at 25
3 6 2, 3 6½ 2, 3 6½ 2, 3 6½ 2, 3 6½ 2

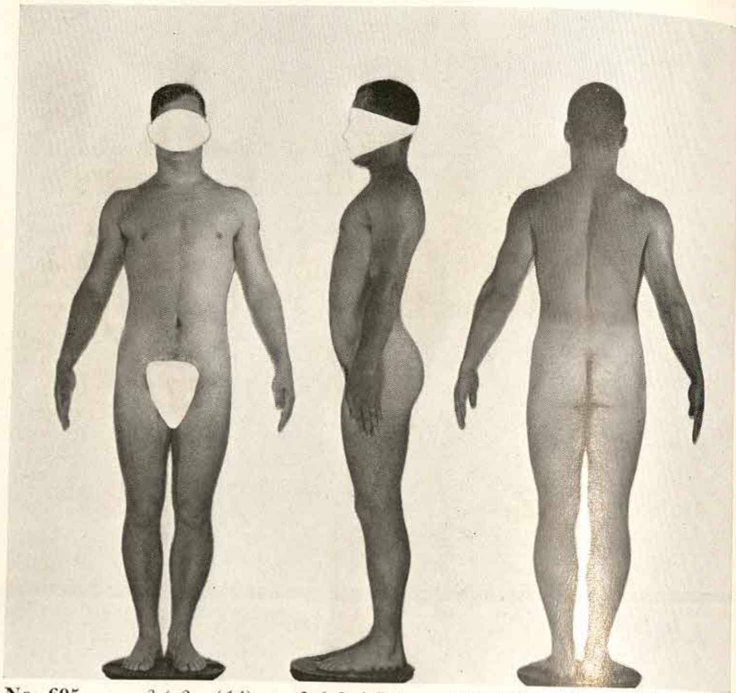


No. 603 *3 6 2* (*12*) 3 6 2–4 6 2 (3½ 6 2) 12.21 at 23
3½ 6 2, 3 6½ 2, 3½ 6 2, 3½ 6 2, 3½ 6 2

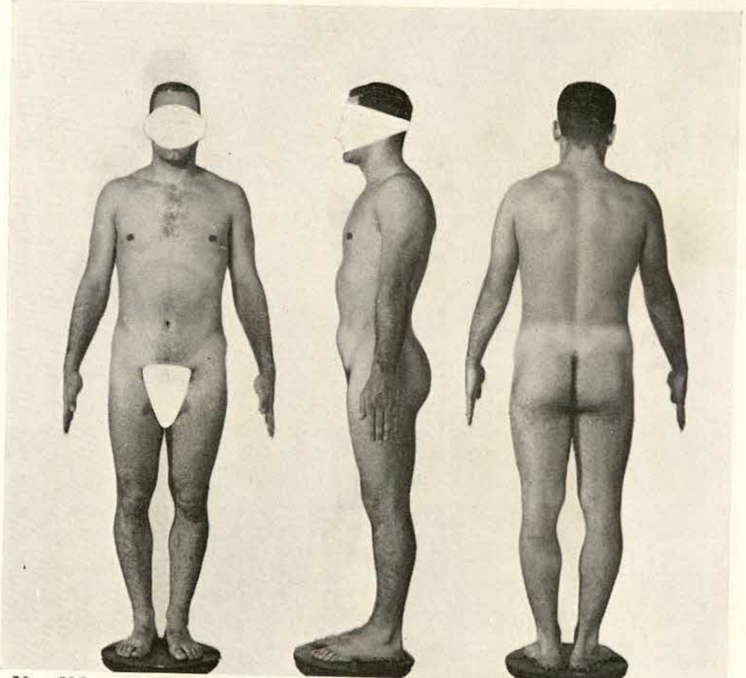


No. 604 *3 6 2 (13)* 3 6 2–4 6 2 (3½ 6 2) 12.20 at 23
3 6 2, 3½ 6 2½, 3½ 6 2, 3½ 6 2, 4 6 1

362



No. 605 *3 6 2 (14)* 3 6 2–4 7 1 (3½ 6½ 1½) 12.19 at 19
3½ 6½ 1½, 3½ 6½ 1½, 3½ 6½ 1½, 3½ 6½ 1½, 4 6 1½



No. 606 *3 6 2 (15)* 3 6 2–4 7 1 (3½ 6½ 1½) 11.91 at 23
3½ 6½ 1½, 3½ 6½ 1, 3½ 6½ 1½, 3½ 6½ 1½, 3½ 6 1½

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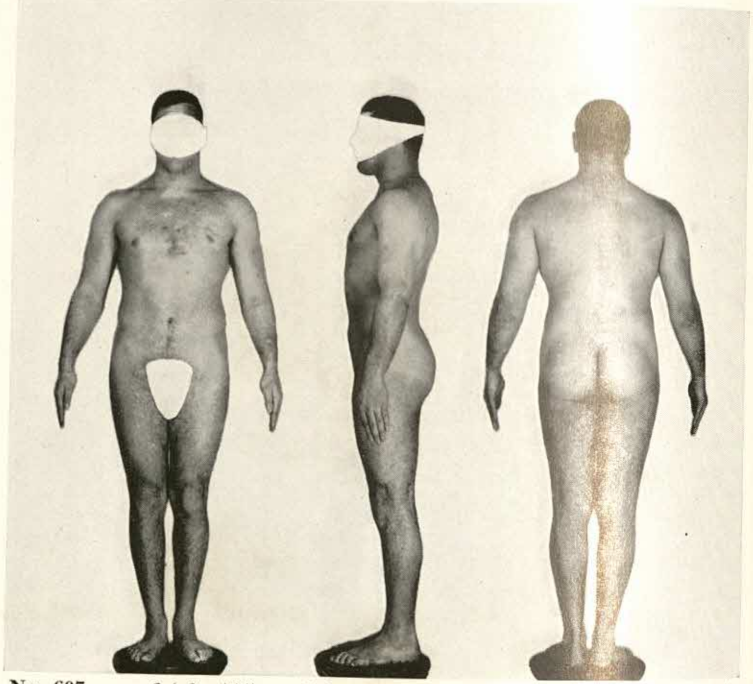
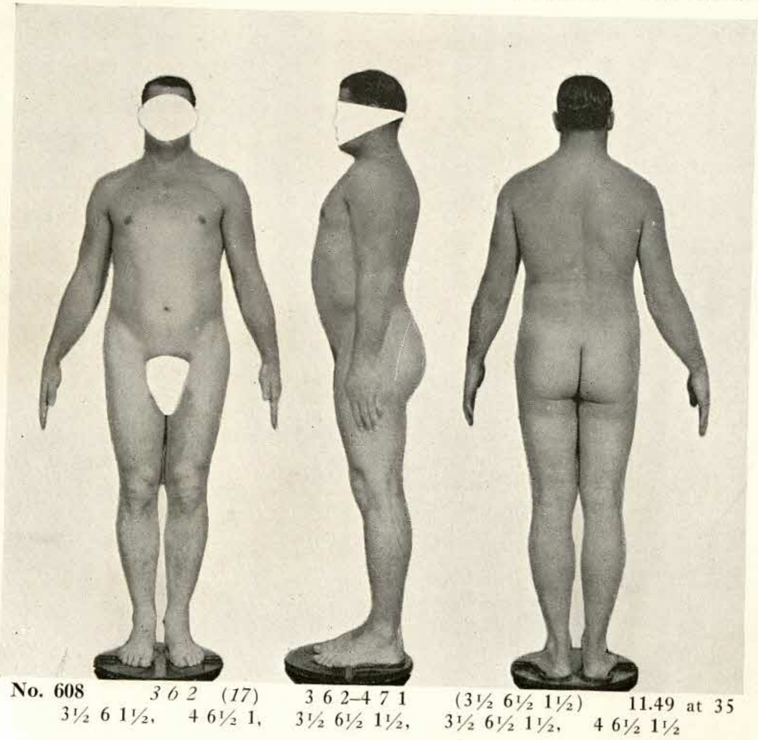


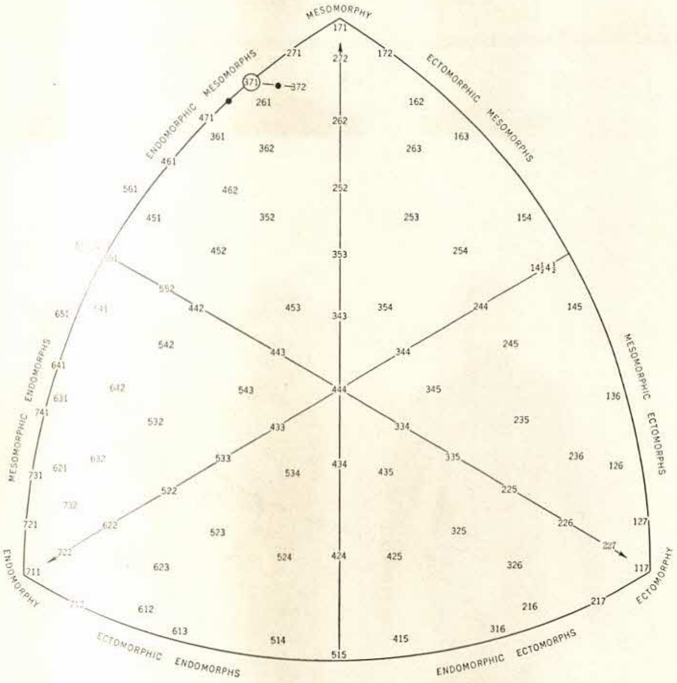
No. 607 *3 6 2 (16)* 3 6 2–4 7 1 (3½ 6½ 1½) 11.83 at 25
3½ 6½ 1½, 3½ 6½ 1½, 3½ 6 1½, 3½ 6½ 1½, 3½ 6 2



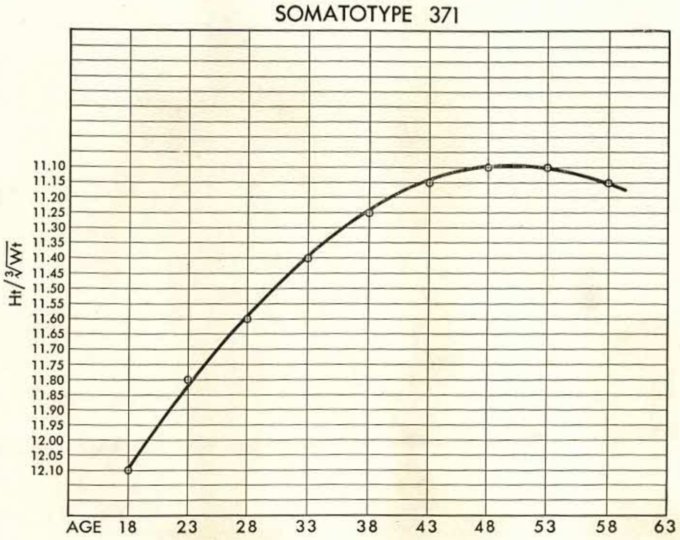
No. 608 *3 6 2 (17)* 3 6 2–4 7 1 (3½ 6½ 1½) 11.49 at 35
3½ 6 1½, 4 6½ 1, 3½ 6½ 1½, 3½ 6½ 1½, 4 6½ 1½

21. PLEISTOCENE SUPERCATS. GREAT CATS OF BEARLIKE PROPORTIONS

Somatotype 3 7 1 *(Endomorphic polar mesomorphy, at extreme ectopenia, 11-level.) The American lions of the Pleistocene. Heavier, more massive, more ponderous than the modern African lion, and they must have been excessively powerful animals. Nos. 609–614.*



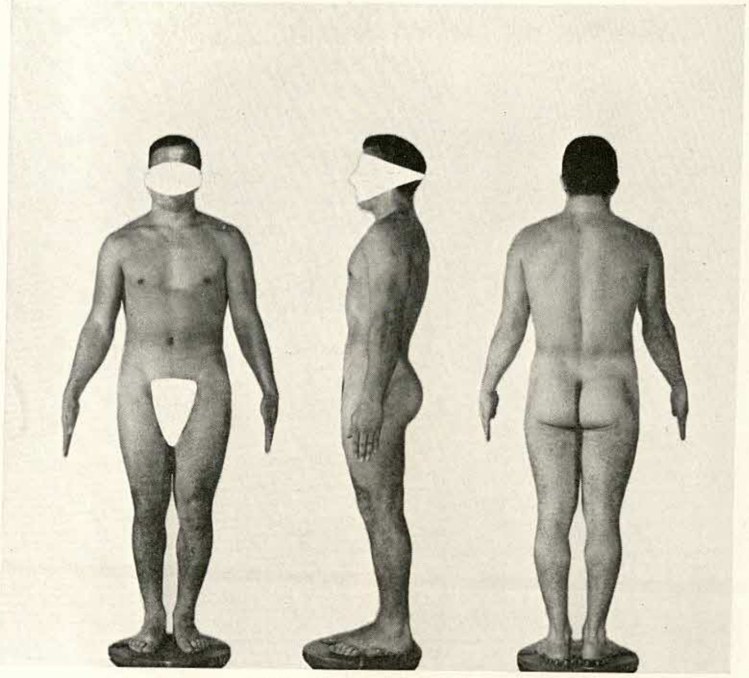
Rarity 4. Incidence 2 per thousand. Commoner than the 2 7 1, but less common than the incredible 4 7 1. There is a certain affinity between the first and second components. When either is at its polar strength, in the male, the frequency of occurrence of a somatotype tends to rise with rising strength in the other. Thus the 1 7 1, 2 7 1, 3 7 1 and 4 7 1 make a series with continuously rising frequency, and this is equally true of the 7 1 1, 7 2 1, 7 3 1 and 7 4 1. However, when either of these first two components is at polar strength, nature apparently does not tolerate, in the human male, a level higher than 2 in the ectomorphic component. Vice versa, when ectomorphy is at polar strength we do not seem to find either the first or second component at a level higher than 2. These two generalizations are of particular interest in light of the fact that they do not hold for women. Among women, for example, both the 7 2 3 and the 3 1 7 are found, but this is another book.



Weight for Age and Height

Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	238	254	271	284	292	299	310	308	304	..
74	229	245	260	272	280	287	295	295	290	..
73	220	235	250	261	269	276	283	284	278	..
72	212	226	240	251	259	265	272	271	267	..
71	203	217	230	241	249	255	262	260	257	..
70	195	208	221	231	238	245	251	250	246	..
69	187	200	212	222	229	235	241	240	236	..
68	179	191	203	212	219	225	230	230	226	..
67	171	183	194	203	210	215	220	220	216	..
66	163	174	185	194	200	206	210	210	206	..
65	156	167	177	185	191	196	201	200	197	..
64	148	159	169	176	183	187	192	191	188	..
63	141	152	161	168	174	179	183	182	179	..
62	135	145	153	160	166	170	174	173	171	..
61	128	138	146	153	158	163	166	166	163	..

At five feet ten inches the 3 7 1 averages 195 pounds at college age, but unless he keeps in constant training will put on weight rapidly until he crosses 250, usually in his late forties. His virtual disappearance from our series after age 60 seems to indicate that successful maintenance of this supremely powerful engine after it has loaded itself down with fat must be difficult. Perhaps with rigorous diet and with judicious exercising the 3 7 1 might be a longer lived somatotype than in our culture it actually is. Here is a nice problem in constitutional medicine: Take a series of 3 7 1's. Leave half of them alone for controls. Keep the other half 10 per cent underweight after age 35 and see what happens.



No. 609 *3 7 1* (*1*) 3 7 1–3 7 1 11.90 at 21
3 7 1, 3 7 1, 3 6½ 1½, 3 7 1, 3½ 6½ 1½

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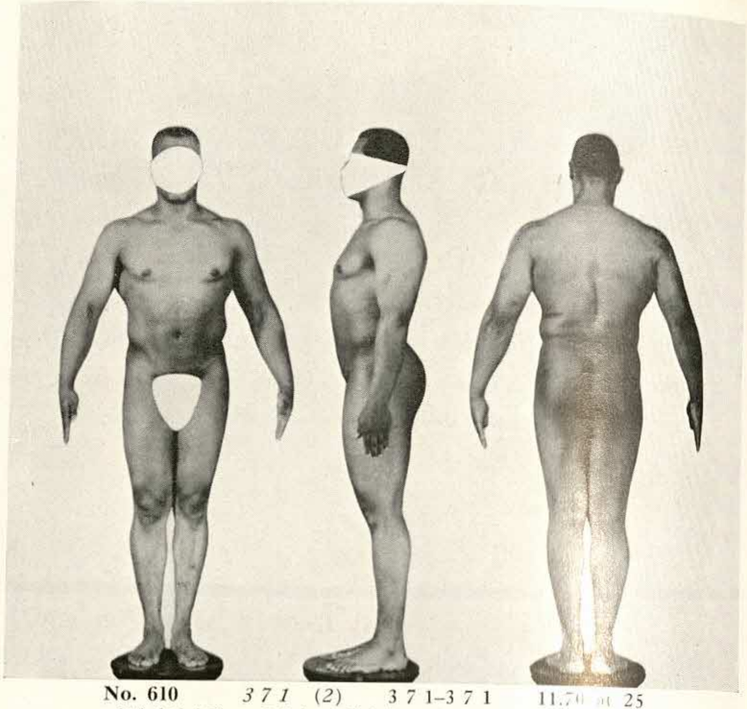
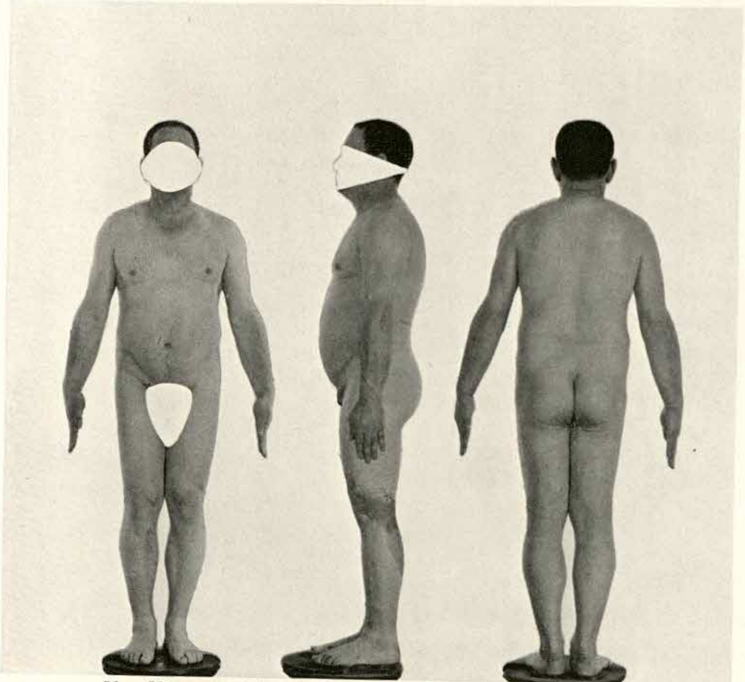
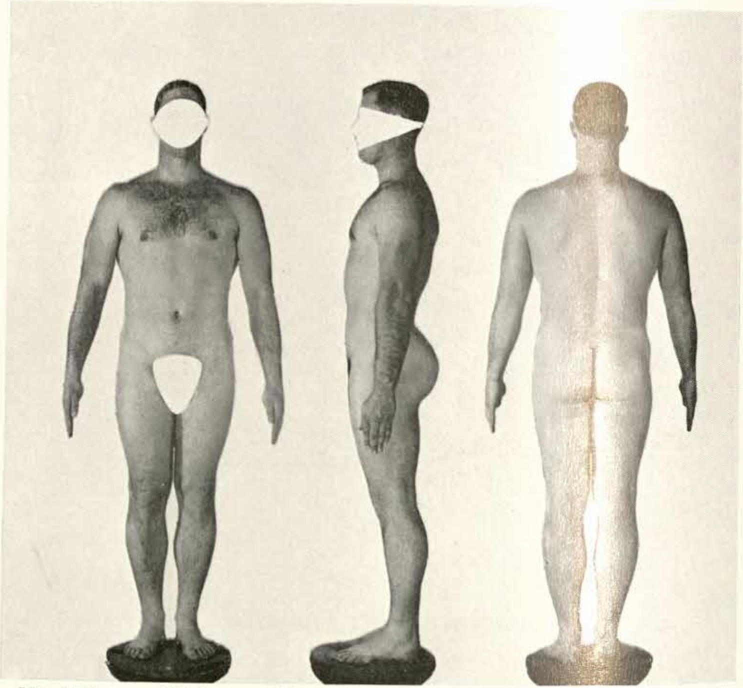


No. 610 *3 7 1* (*2*) 3 7 1–3 7 1 11.70 at 25
2½ 6½ 1½, 3 7 1, 3 7 1, 2½ 7 1, 3 6½ 1½

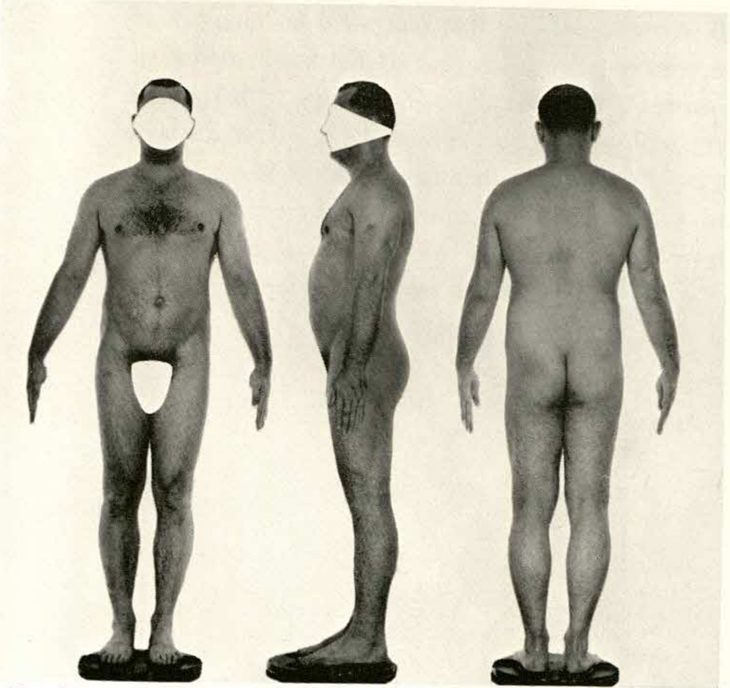


No. 611 *3 7 1* (*3*) 3 7 1–3 7 1 11.11 at 55
3½ 6½ 1, 3½ 6½ 1, 3 7 1, 3 7 1, 3 7 1

371

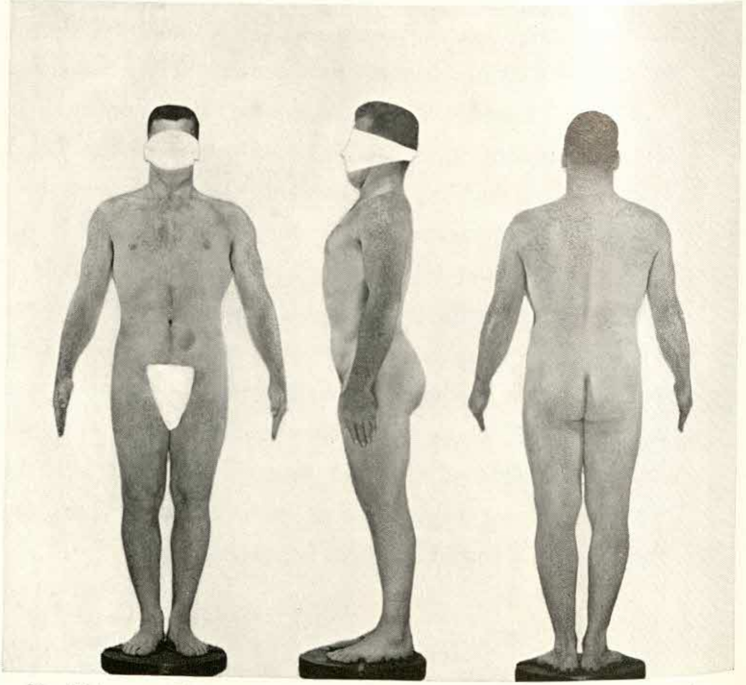


No. 612 *3 7 1* (*4*) 3 7 1–3 7 2 (3 7 1½) 12.00 at 20
3 6½ 2, 3 7 1, 3 6½ 1½, 3 7 1½, 3½ 7 1



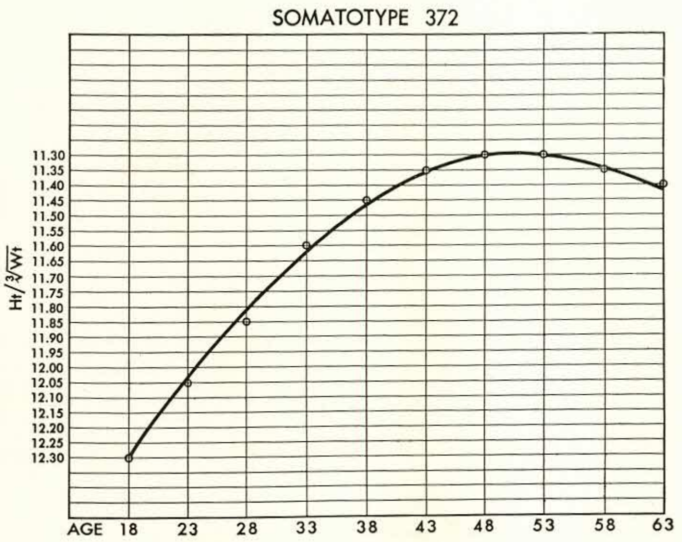
No. 613 *3 7 1* (*5*) 3 7 1–3 7 2 (3 7 1½) 11.31 at 40
3 6½ 1½, 3 7 1½, 3 7 1½, 3 6½ 1½, 3 7 1½

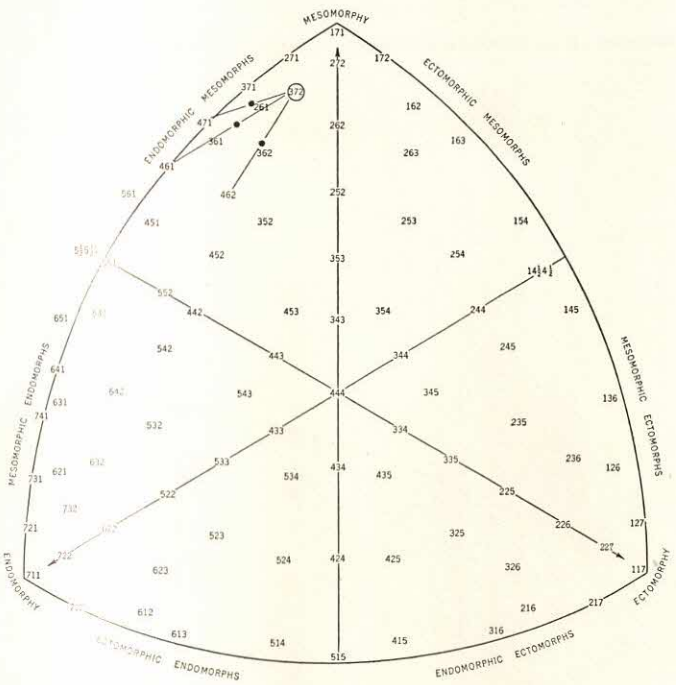
371



No. 614 *3 7 1* (*6*) 3 7 1–4 7 1 (3½ 7 1) 11.62 at 23
3½ 7 1, 3½ 7 1, 3½ 6½ 1, 3½ 6½ 1½, 3½ 7 1½

Somatotype 3 7 2 *(Endomorphic polar mesomorphy, 12-level.) The great saber-tooth bobcat. Contemporary with the saber-tooth tigers but heavier, and even bigger than the Pleistocene lions. He preyed on the giant ground sloth, a mesomorphic endomorph of the weight of a modern elephant. Nos. 615–618.*





Weight for Age and Height

Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	222	240	249	271	280	289	294	294	289	284
74	218	231	239	260	269	277	281	281	277	272
73	210	221	230	250	258	266	269	269	266	261
72	201	213	221	240	248	256	259	259	256	251
71	193	205	212	230	238	246	249	249	246	241
70	185	196	204	221	228	236	238	238	236	231
69	177	188	195	212	219	226	229	229	226	222
68	169	180	187	203	210	216	219	219	216	212
67	162	172	179	194	200	207	209	209	207	203
66	155	165	170	185	191	197	200	200	197	194
65	148	157	163	177	182	188	191	191	188	185
64	141	150	155	169	174	180	182	182	180	176
63	134	143	148	161	166	171	174	174	171	168
62	128	136	141	153	158	163	166	166	163	160
61	122	130	135	146	151	156	158	158	156	153

Rarity 4. Incidence 3 per thousand. To visualize a 3 7 2 in action, it will fortunately not be necessary for most of the readers of this book to imagine an abstraction. They will only have to recall the early days of television, when Joe Louis was still a tolerably catlike heavyweight fighter. Louis was seen frequently on television during that period. Though already well past 30, "overweight," and thought by some to be too old for the ring, he was able even then to impart, at least to opponents, a remarkably vivid idea of what great cat mesomorphy is like in the flesh. He had much of the speed of the big cats, but also he had the bulk of the bears.

Another famous 3 7 2, almost certainly, was Bronco Nagurski, fullback for Minnesota and later for the Chicago Bears. This extremely mesomorphic young man used to romp through the opposing defense, especially in the fourth quarter when the latter had been pretty well softened up (by Bronco), for all the world as a buffalo-sized bobcat might romp through a herd of giant ground sloths.

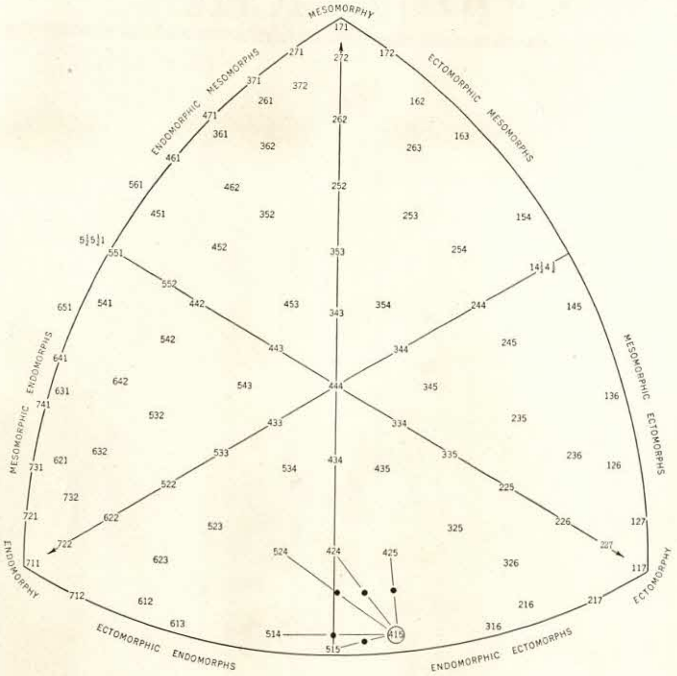
In the presence of polar mesomorphy the little 2 in ectomorphy seems often to accomplish the transition from a slow, muscle-bound "fireplug in a uniform," to the catlike speed and striking power of a famous champion.

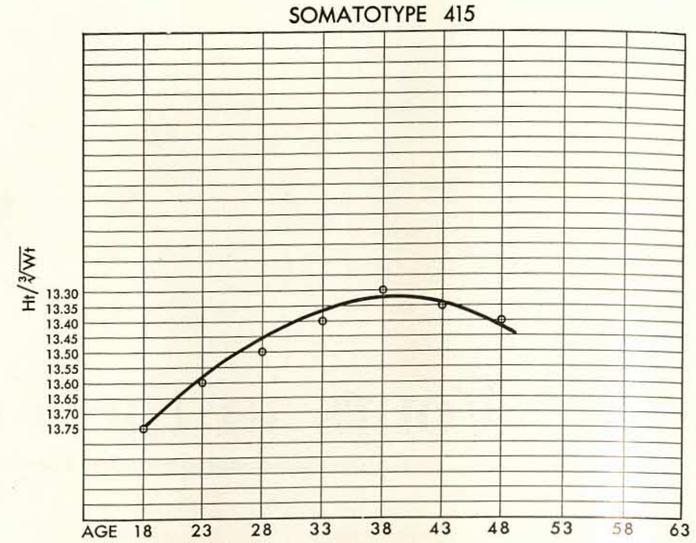
9

Fours in the First Component

22. OYSTER CATCHERS

Somatotype 4 1 5 *(Endomorphic ectomorphy at extreme mesopenia, 10-level.) Long-legged and long-winged waders, or shore birds, who yet are heavier, less active than sandpipers. They sit on rocks along the West Coast and wait for the tide to go out. Then they hunt little oysters. Nos. 619–629.*





Weight for Age and Height

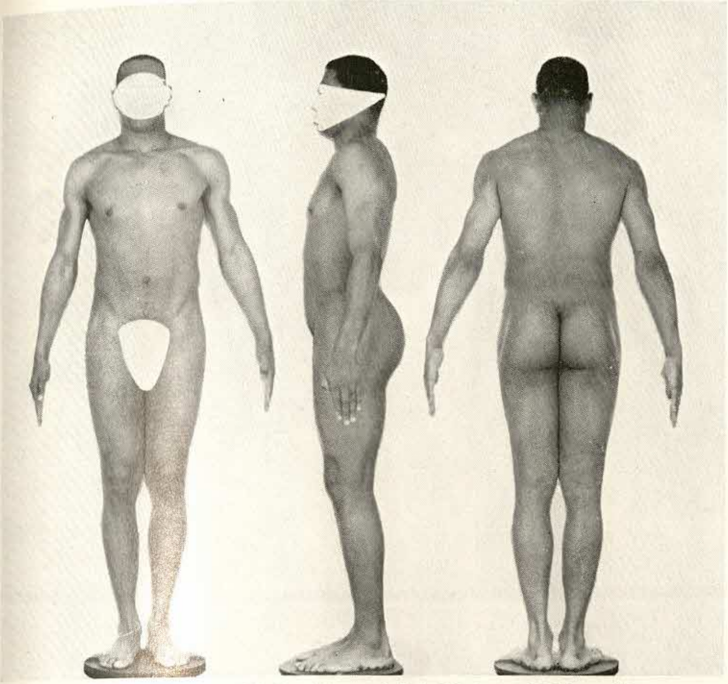
Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	162	168	172	175	178	177	174	..	..	..
74	156	161	165	168	171	170	165	..	..	..
73	149	154	158	161	164	163	158	..	..	..
72	143	148	152	155	157	156	152	..	..	..
71	137	142	146	149	151	150	145	..	..	..
70	131	136	140	143	145	144	140	..	..	..
69	126	131	134	137	139	138	134	..	..	..
68	121	125	128	131	133	132	131	..	..	..
67	115	119	122	125	127	126	124	..	..	..
66	110	114	117	119	121	120	118	..	..	..
65	105	109	111	114	116	115	113	..	..	..
64	100	104	106	109	111	110	109	..	..	..
63	96	99	101	104	106	105	103	..	..	..
62	91	94	97	99	101	100	98	..	..	..
61	87	90	92	94	96	95	94	..	..	..

Rarity 5. Incidence 5 per ten thousand. One of the least rare of the extreme mesopenes from down under, but all of these are rarity 5. Like the 3 1 6, this appears to be a barely viable somatotype in the male but gets along much better as a female, and in that sex is not rare. Women who are 4 1 5's are inclined to have "weak backs," and they do not enjoy playing golf with their husbands, but they produce children and so far as we know are not notably short lived.

In the male the 4 1 5 is one of the weakling somatotypes, and so obviously or conspicuously so that other youngsters usually treat him with a certain deference or neutrality which at one stage in their development they typically reserve for girls. This is not a somatotype that is "picked on," except perhaps occasionally by other weaklings who are not quite so weak.

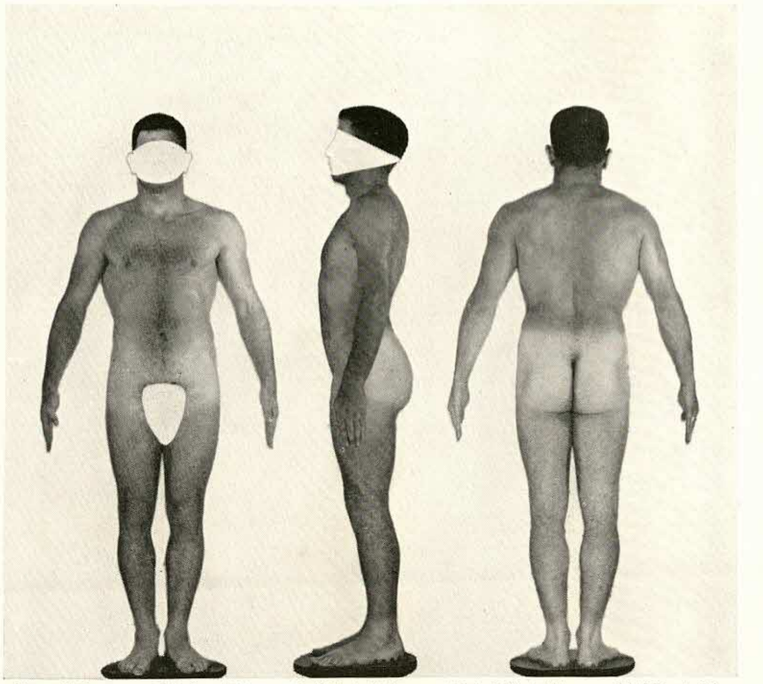
In a sense the 4 1 5 is fortunate. He escapes entirely the danger of athletic and pugilistic ambitions and if he is bright, which he often is, he is likely to get an excellent start toward academic or scientific achievement, or even toward developing a mind. Probably long life is rare in such a somatotype, although we know that to be true only of averages, and possibly it would *not* be true of a sample of unusually bright or successful examples of the somatotype.

Some of the 4 1 5's, perhaps as many as one in ten, show the genital underdevelopment associated with the Froehlich syndrome and seen with greater frequency in those mesopenes who are more endomorphic.

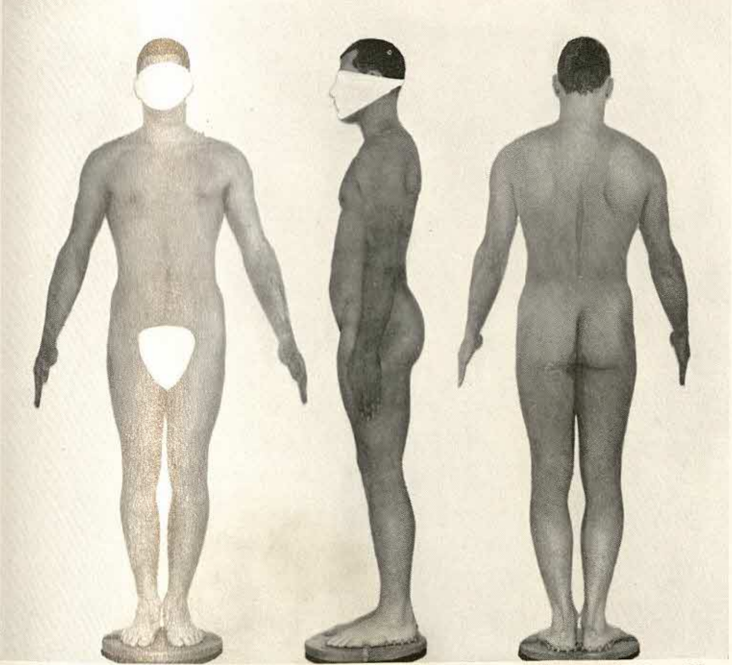


No. 615 *3 7 2 (1)* 3 7 2–3 7 2 12.14 at 20
2½ 6½ 2, 2½ 6½ 2, 3 7 2, 3 7 2, 3 7 2

372

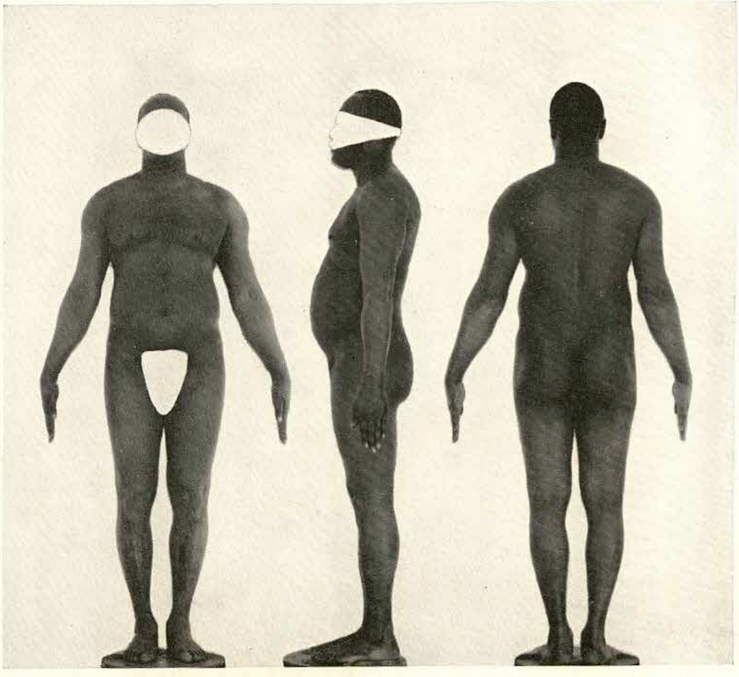


No. 616 *3 7 2 (2)* 3 7 2–4 6 1 (3½ 6½ 1½) 11.87 at 24
3½ 6½ 1, 3½ 7 1½, 3½ 6½ 1½, 3½ 6½ 1½, 3½ 6½ 1½

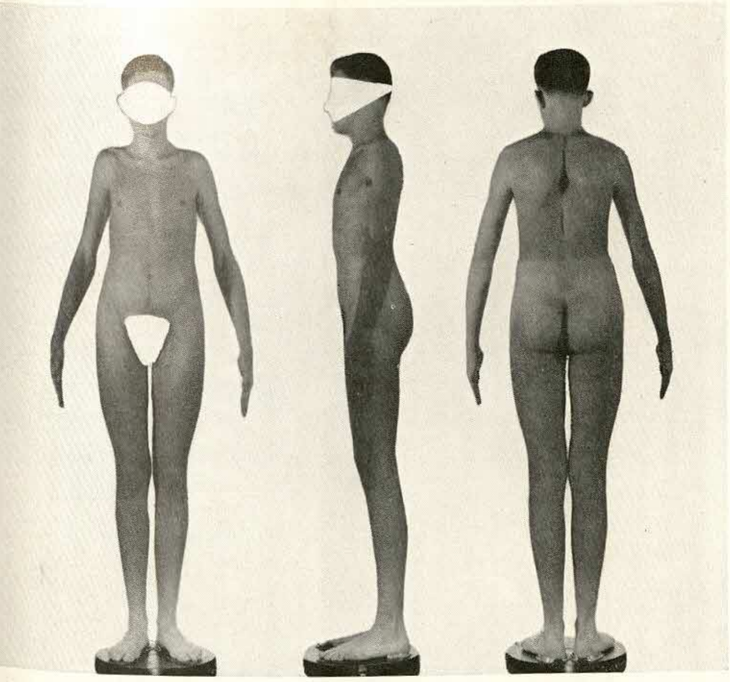


No. 617 *3 7 2 (3)* 3 7 2–4 6 2 (3½ 6½ 2) 12.22 at 20
3½ 6 2, 3½ 6½ 2, 3½ 6½ 2, 3½ 6 2½, 3½ 6½ 1½

372

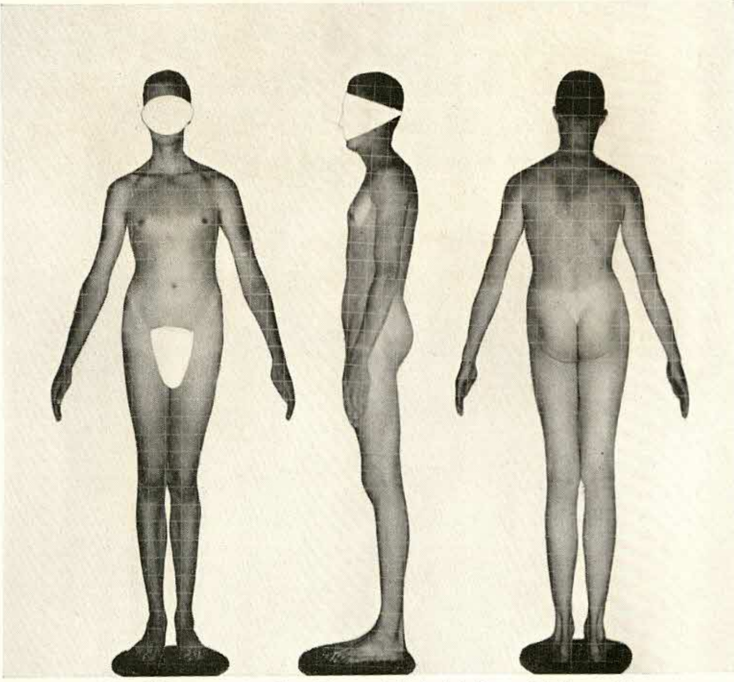


No. 618 *3 7 2 (4)* 3 7 2–4 7 1 (3½ 7 1½) 11.28 at 34
2½ 7 1½, 3½ 7 1½, 3½ 6½ 2, 3½ 7 1½, 3½ 6½ 2

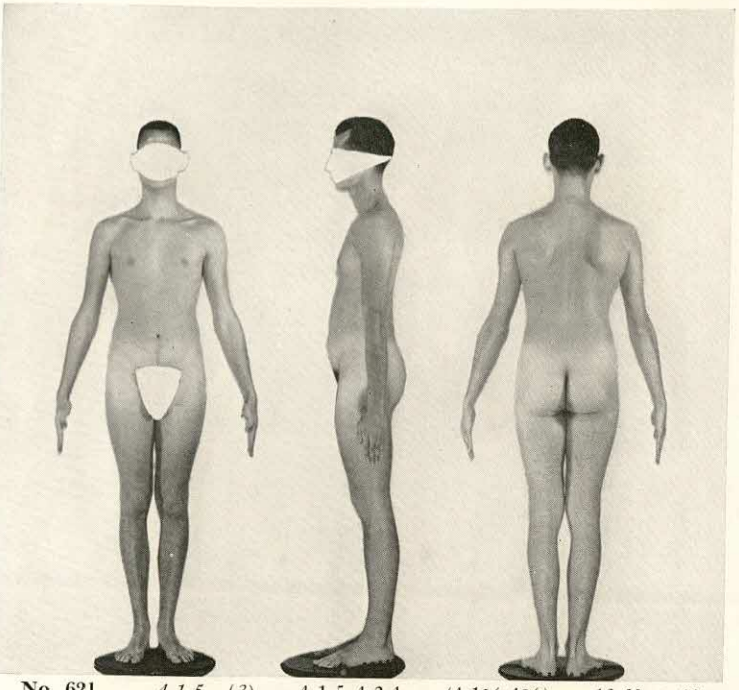


No. 619 *4 1 5 (1)* 4 1 5–4 1 5 13.73 at 18
4 1½ 4½, 3½ 1 5½, 3½ 1 5½, 4 1½ 5, 4 1 5½

415

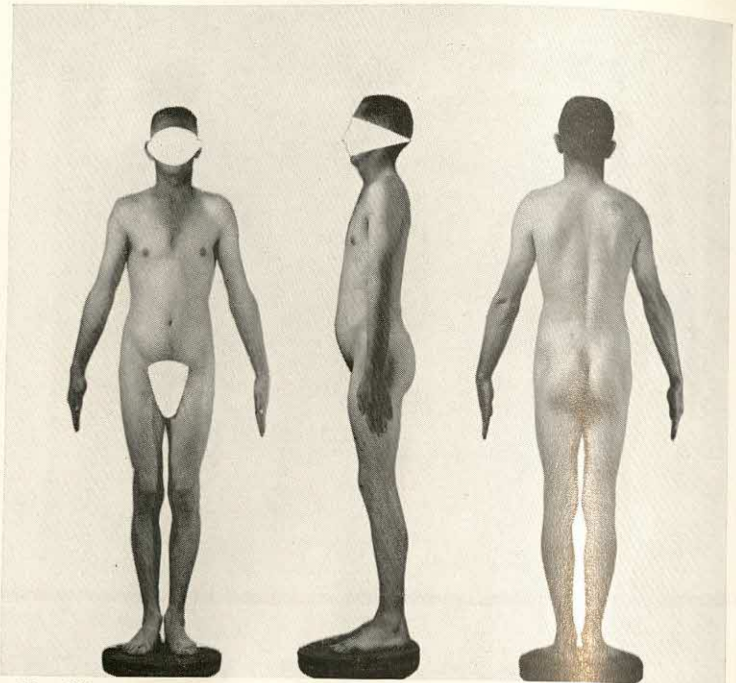


No. 620 *4 1 5 (2)* 4 1 5–4 1 5 13.61 at 21
3½ 1 6, 4 1½ 4½, 4 1½ 5, 4½ 1 4½, 4 1 5½

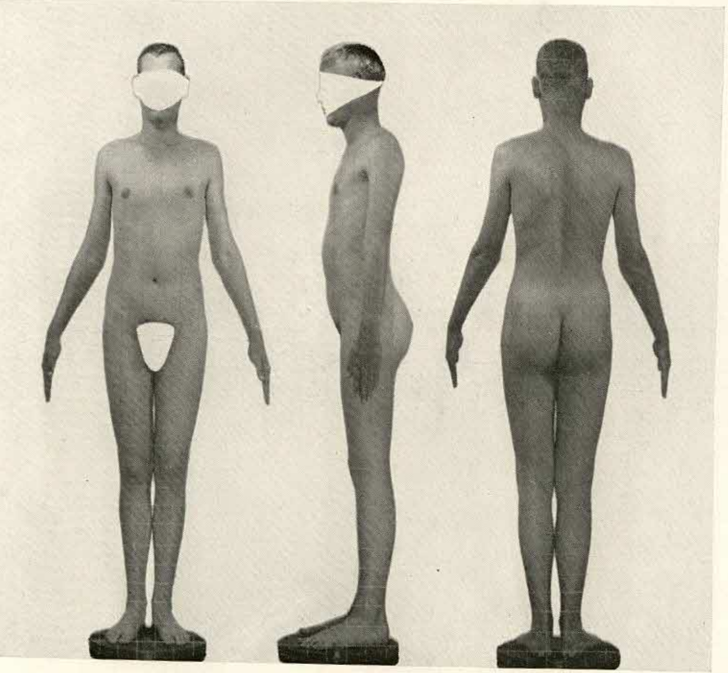


No. 621 *4 1 5* (*3*) 4 1 5–4 2 4 (4 1½ 4½) 13.60 at 18
3½ 1½ 5, 4 1½ 4½, 4 1½ 5, 4½ 1½ 4, 4½ 2 4½

415

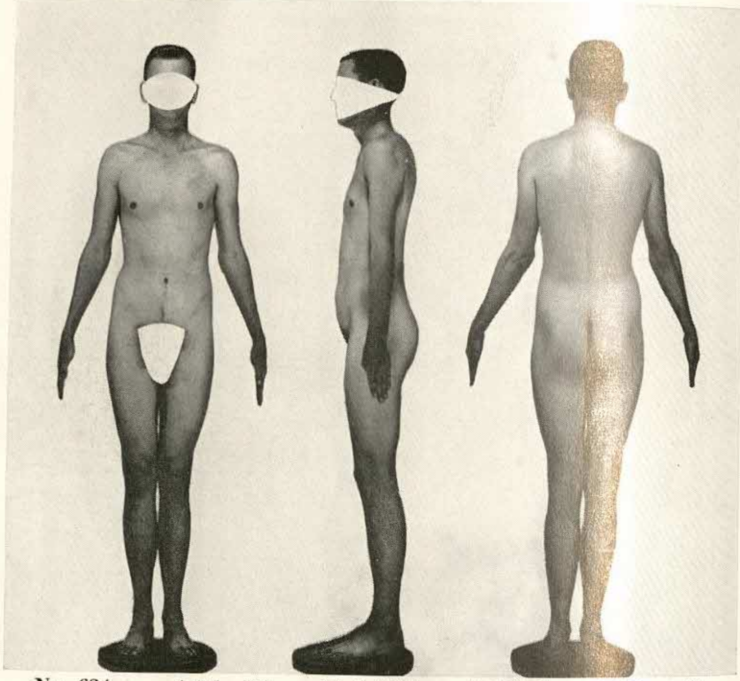


No. 622 *4 1 5* (*4*) 4 1 5–4 2 4 (4 1½ 4½) 13.44 at 22
4 1½ 4½, 4 1½ 4½, 4 2 4½, 4 1½ 4½, 3½ 2 4½

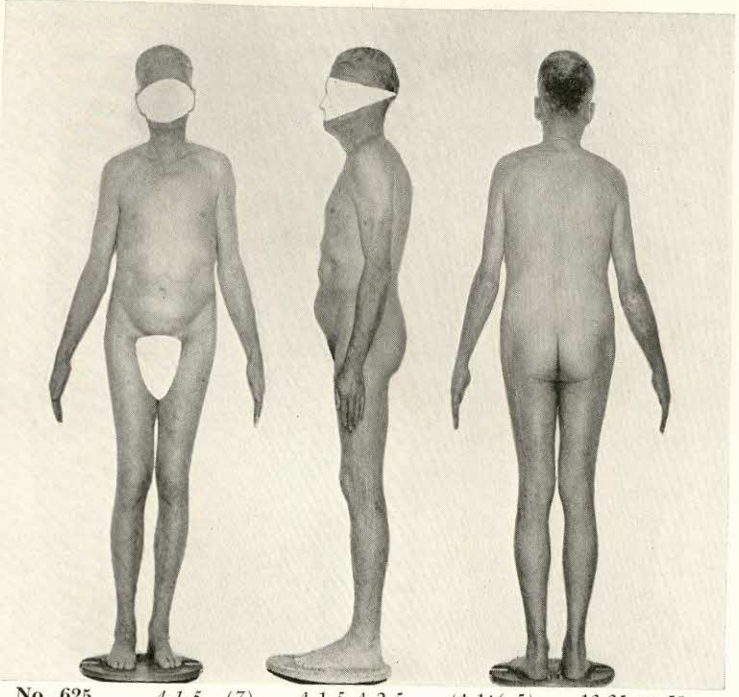


No. 623 *4 1 5* (*5*) 4 1 5–4 2 5 (4 1½ 5) 13.66 at 19
4 1½ 5, 4 1½ 5, 4 1½ 5, 4 1½ 5, 4½ 2 4½

415

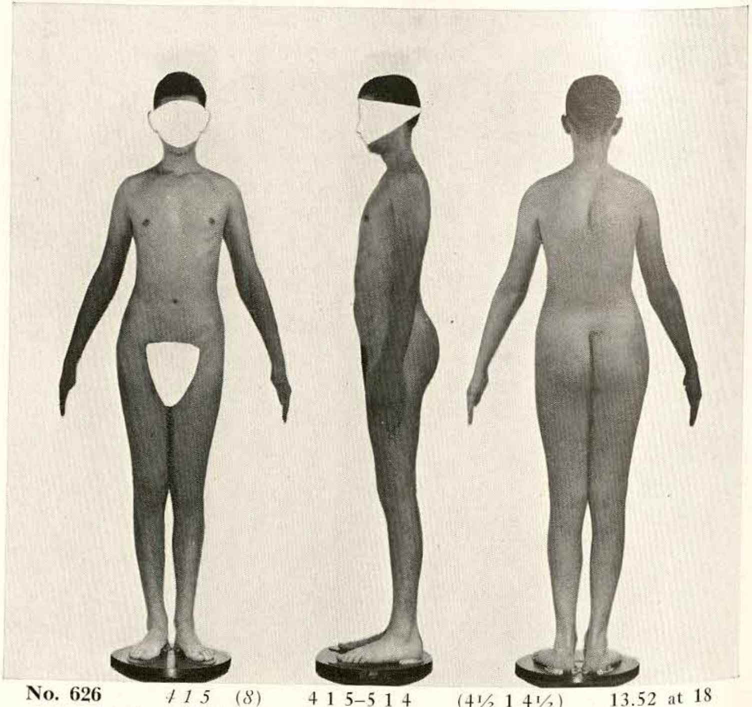


No. 624 *4 1 5* (*6*) 4 1 5–4 2 5 (4 1½ 5) 13.56 at 22
4 2 4½, 4 1 5, 4 1½ 5, 4 1½ 5, 4 2½ 5



No. 625 *4 1 5* (*7*) 4 1 5–4 2 5 (4 1½ 5) 13.25 at 58
4 2 5, 4 1½ 5, 3½ 1½ 5, 4 1½ 5, 3½ 1½ 5

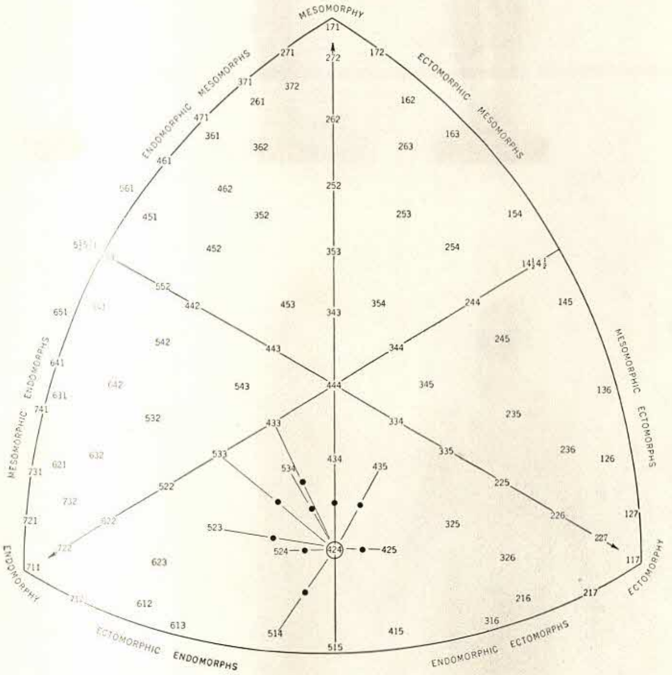
415



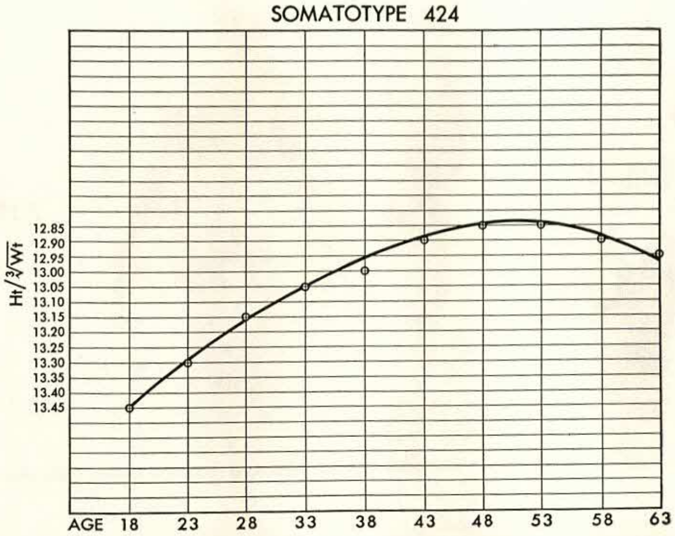
No. 626 *4 1 5* (*8*) 4 1 5–5 1 4 (4½ 1 4½) 13.52 at 18
4 1 5, 4½ 1 4½, 4½ 1 4½, 4½ 1½ 4½, 5 1½ 4

23. MARSUPIALS

Somatotype 4 2 4 *(Balanced endomorph-ectomorphs, 10-level.) Opossums. Delicate, furtive marsupials who hunt beetles at night, or whatever such scraps they can find, and like the bears and woodchucks get fat for the winter. Nearly innocent of mesomorphy, their most effective defense against attack is to "play 'possum." Nos. 630–643.*



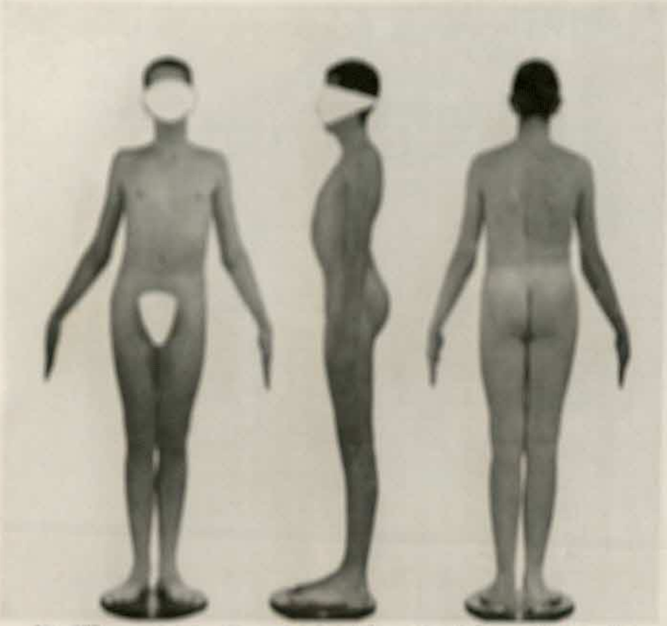
Rarity 3. Incidence 4 per thousand. The difference in frequency of occurrence between the 4 2 4 and the 2 4 4 is of the order of one to ten—the latter somatotype constituting about 4 per cent of the male population. Perhaps this is a fair measure of the premium which nature puts on mesomorphy, or rather of the penalty she puts on mesopenia, for survival in the male. The third member of this permutation family, the 4 4 2, falls about halfway between its two brothers with respect to frequency (25 per thousand). In the male, nature tolerates mesopenia badly, endopenia well, and she seems nearly neutral to ectopenia. If we consider the closely related 4 1 5 in series with the 4 2 4 and the 2 4 4, we find the three in almost a decimal progression, the 4 1 5 occurring at the rate of 5 in ten thousand, the 4 2 4 at 40 in ten thousand, and the 2 4 4 at 400 in ten thousand. Such data give an indication of the degree of excitement around the Constitution Laboratory when one of the rare mesopenes turns up.



Weight for Age and Height

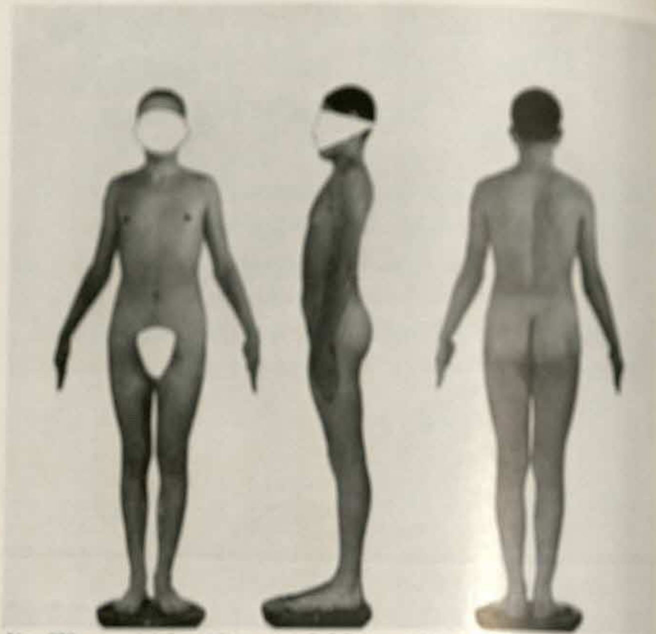
Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	174	179	184	189	192	196	198	198	197	195
74	167	172	177	181	185	189	190	190	189	187
73	160	165	170	174	178	181	183	183	182	179
72	153	158	163	167	169	173	175	175	174	171
71	147	152	156	160	163	167	168	168	167	165
70	141	146	150	154	156	160	162	162	160	158
69	135	140	144	147	150	153	155	155	154	151
68	129	134	138	141	144	147	148	148	147	145
67	123	128	132	135	137	140	142	142	141	138
66	118	122	126	129	131	134	135	135	134	132
65	112	116	120	123	125	128	129	129	128	126
64	107	111	115	117	119	122	123	123	122	120
63	102	106	109	112	114	116	118	118	117	115
62	98	101	104	106	108	111	112	112	111	110
61	93	96	99	101	103	105	107	107	106	104

The 4 2 4 is one of what we have sometimes called the "academic" somatotypes. Boys with such a constitution never get started at all in the common athletic competitions, and since they cannot fight, and yet with their endomorphy are sociably inclined (viscerotonic), they frequently make a "good social adjustment" as hangers-on and supportive figures. Also they often take to schoolwork and make the most of their mental gifts, which seem among all the moderate mesopenes to be better than average. The way is thus naturally opened for a good academic start, and for later achievement in a number of fields.

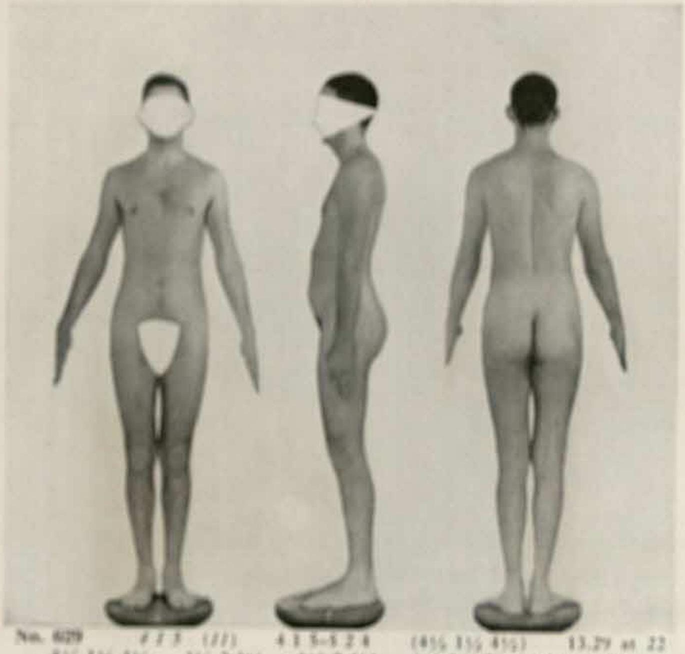


No. 627 *4 1 5* (9) 4 1 5-5 1 5 (4½ 1 5) 13.61 at 19
4 1 5. 4½ 1 5. 4½ 1 5. 4½ 1½ 4½. 5 1½ 5

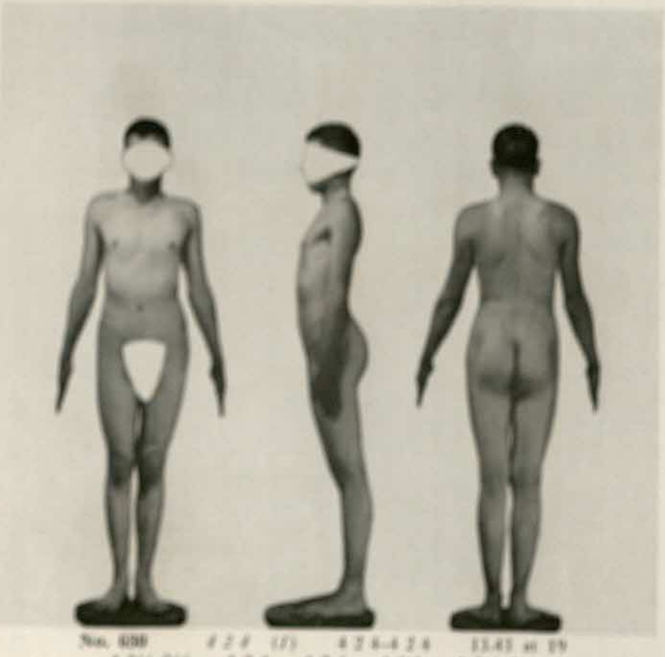
415



No. 628 *4 1 5* (10) 4 1 5-5 2 4 (4½ 1½ 4½) 13.66 at 18
4 1½ 4½. 4½ 1½ 4½. 4½ 1½ 4½. 4½ 2 4½. 4½ 2 5

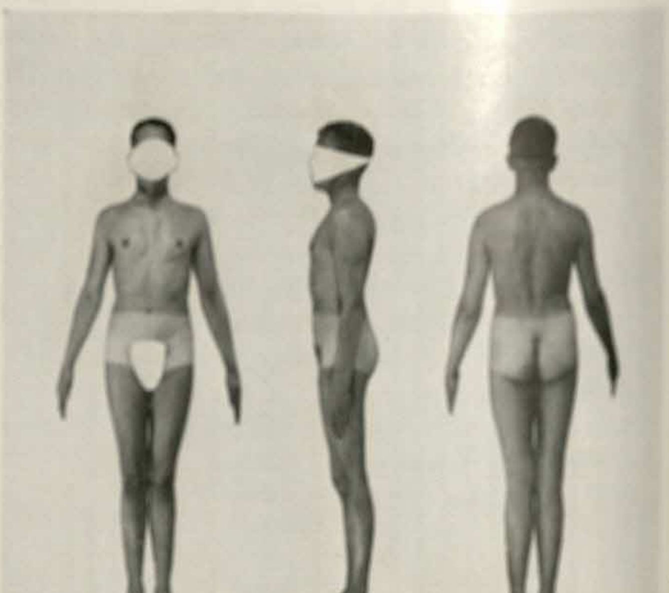


No. 629 *4 1 5* (11) 4 1 5-5 2 4 (4½ 1½ 4½) 13.29 at 22
4½ 1½ 4½. 4½ 2 4½. 4½ 2 4½. 4½ 1½ 5. 4½ 1½ 4½

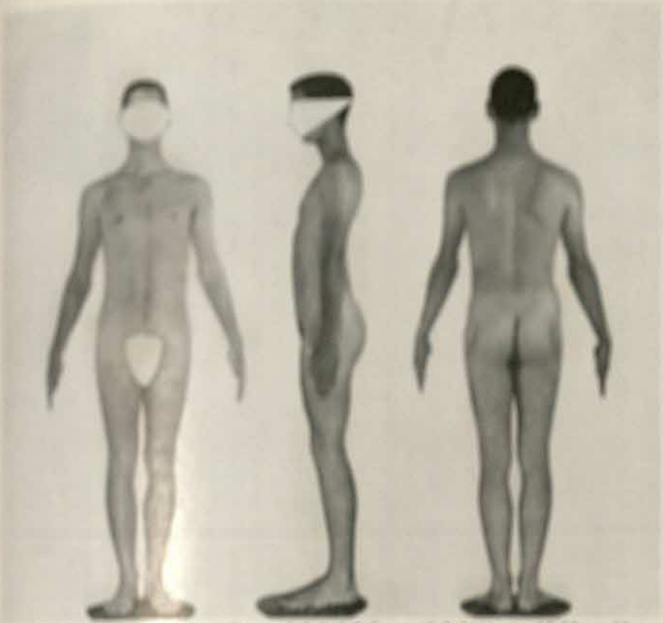


No. 630 *4 2 4* (1) 4 2 4-4 2 4 13.45 at 19
4 2½ 3½. 4 2 4. 4 2 4. 4 2 4. 4 2½ 4½

424

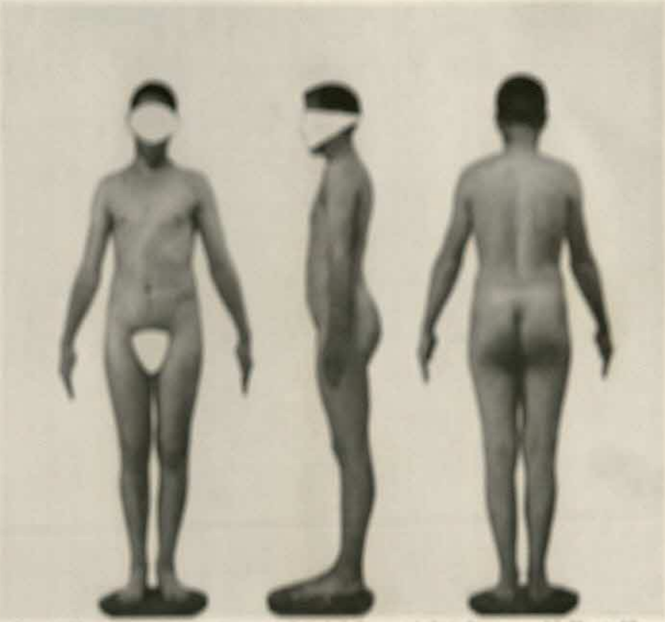


No. 631 *4 2 4* (2) 4 2 4-4 2 4 13.50 at 28
4 2 4. 4 2½ 3½. 4 2½ 4. 4 2 4. 4 2 4

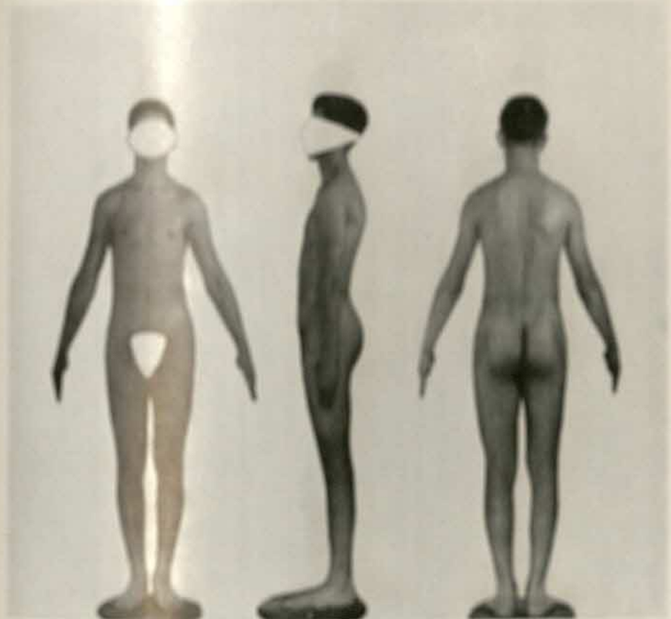


No. 432 *4 2 4* (7) 4 2 4–4 2 5 (4 2 4½) 13.32 at 18
4 3½ 4½. 4 2 5. 4 2½ 4½. 4 2 4½. 4½ 3 3½

424

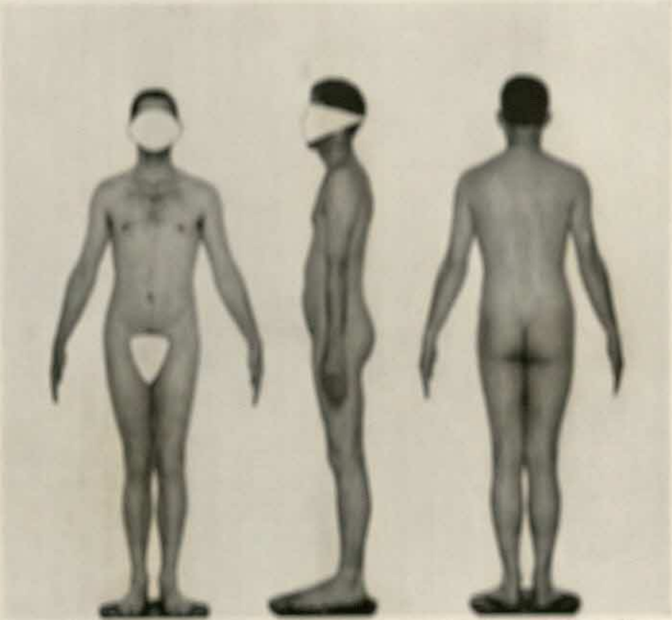


No. 433 *4 2 4* (4) 4 2 4–4 3 3 (4 2½ 3½) 13.28 at 19
4 2 4. 4 2½ 3½. 4 2½ 3½. 4 2½ 3½. 4½ 3 3½

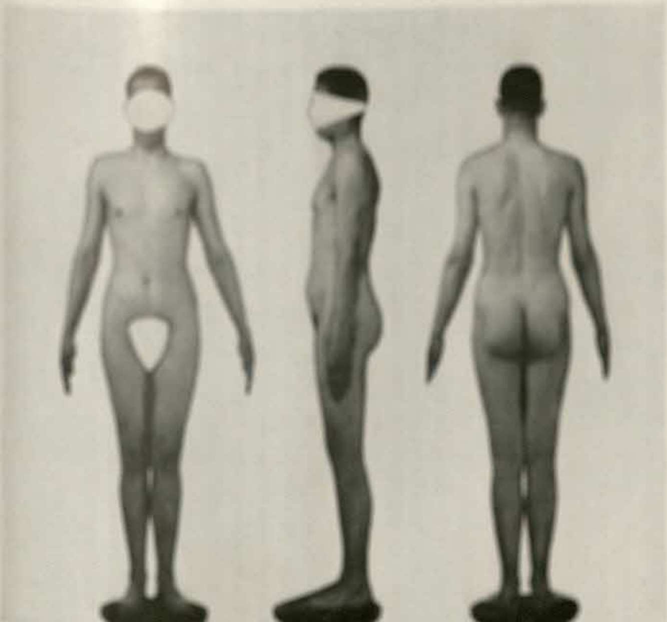


No. 434 *4 2 4* (3) 4 2 4–4 3 4 (4 2½ 4) 13.39 at 19
4 2½ 4. 4 2 4. 4 2½ 4½. 4 2½ 4. 4 2½ 4

424

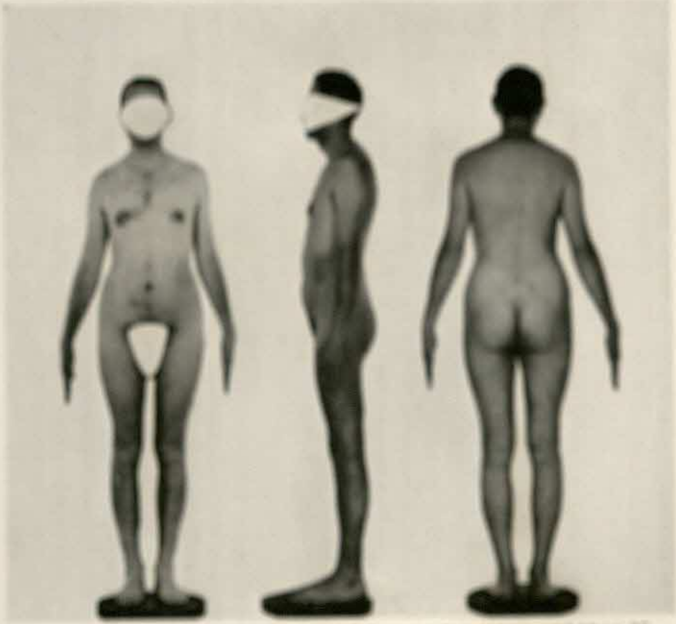


No. 435 *4 2 4* (4) 4 2 4–4 3 4 (4 2½ 4) 13.23 at 24
4 2½ 4. 4 2½ 4½. 4 2½ 4. 4 2½ 4. 4 3½ 4

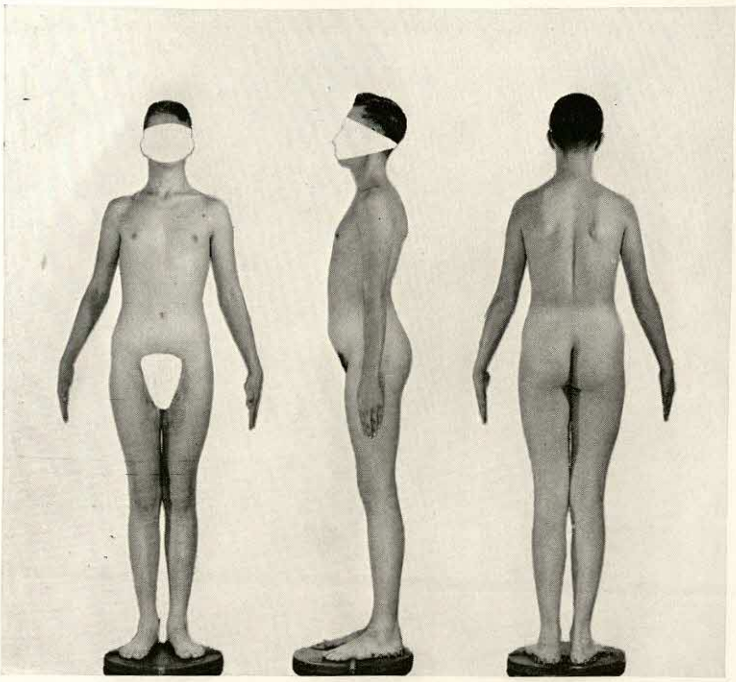


No. 436 *4 2 4* (7) 4 2 4–4 3 3 (4 2½ 4½) 13.33 at 22
3½ 2½ 5. 4 2½ 4½. 4 2½ 4½. 4 2½ 4½. 4½ 2½ 4

424

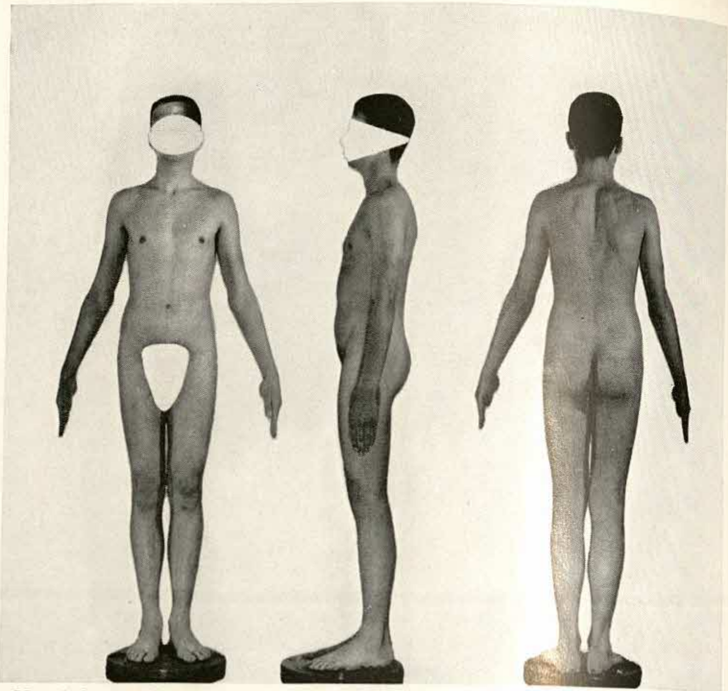


No. 437 *4 2 4* (4) 4 2 4–4 3 3 (4 2½ 4½) 13.00 at 23
4 2½ 4½. 4 2½ 4½. 4 2 4½. 4 2 4½. 3½ 2½ 4½

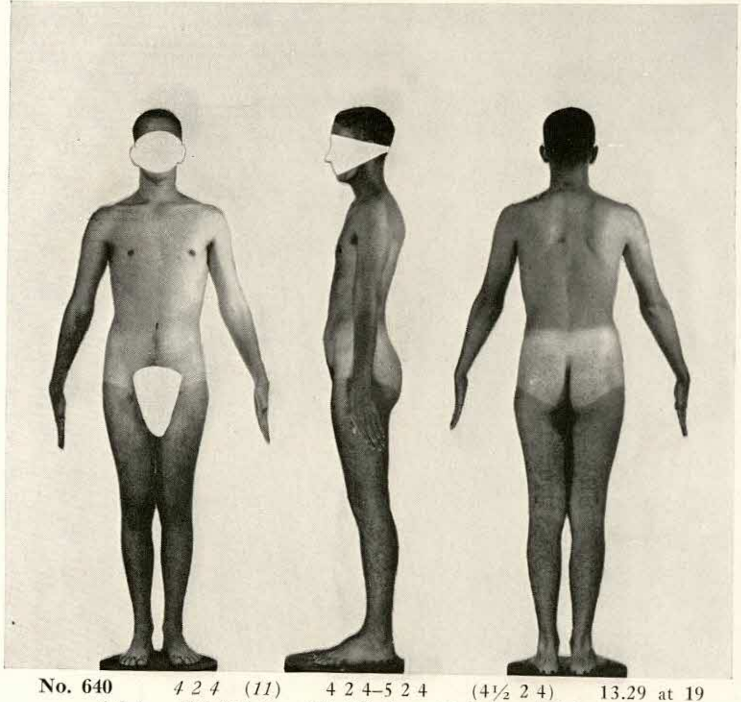


No. 638 *4 2 4* (*9*) 4 2 4–5 1 4 (4½ 1½ 4) 13.36 at 18
4 2 4½, 4½ 1½ 4, 4 1½ 5, 4½ 1½ 4, 4½ 1½ 4

424

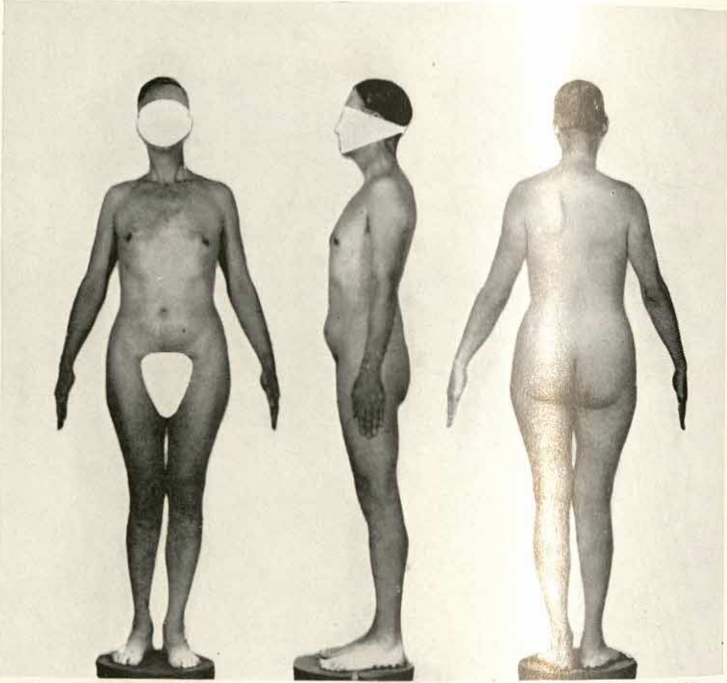


No. 639 *4 2 4* (*10*) 4 2 4–5 2 3 (4½ 2 3½) 13.23 at 18
4½ 2 3½, 4½ 2 3½, 4½ 2 3½, 4½ 2 3½, 4½ 2 3½

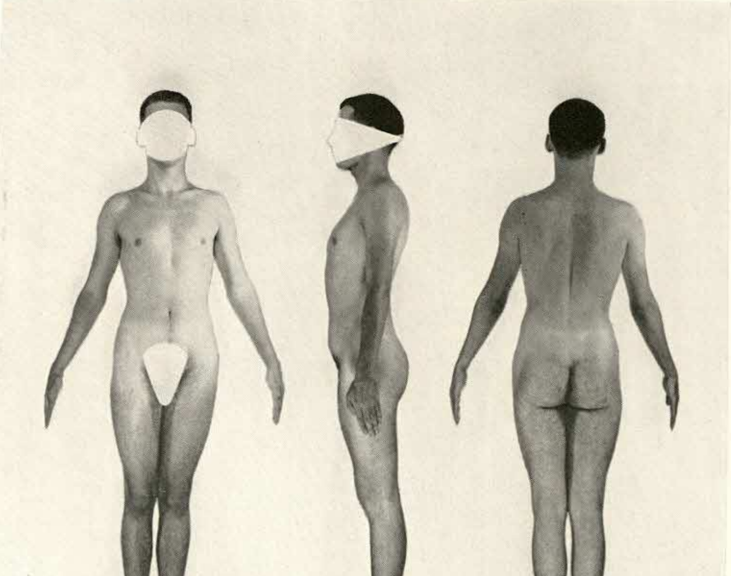


No. 640 *4 2 4* (*11*) 4 2 4–5 2 4 (4½ 2 4) 13.29 at 19
4 2 4, 4½ 1½ 4, 4½ 1½ 4, 4½ 2 4, 4½ 2½ 3½

424

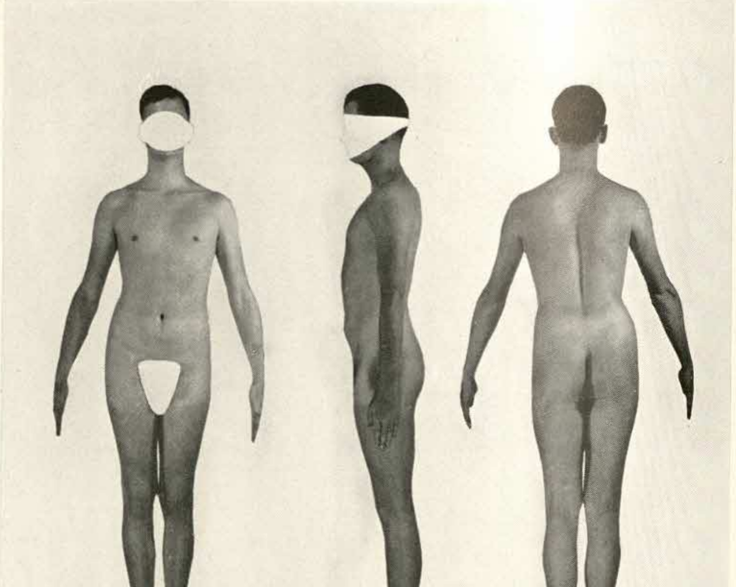


No. 641 *4 2 4* (*12*) 4 2 4–5 2 4 (4½ 2 4) 12.72 at 44
4 1½ 5, 4½ 1½ 4, 4½ 2 4, 4½ 2 4. 5 2 4



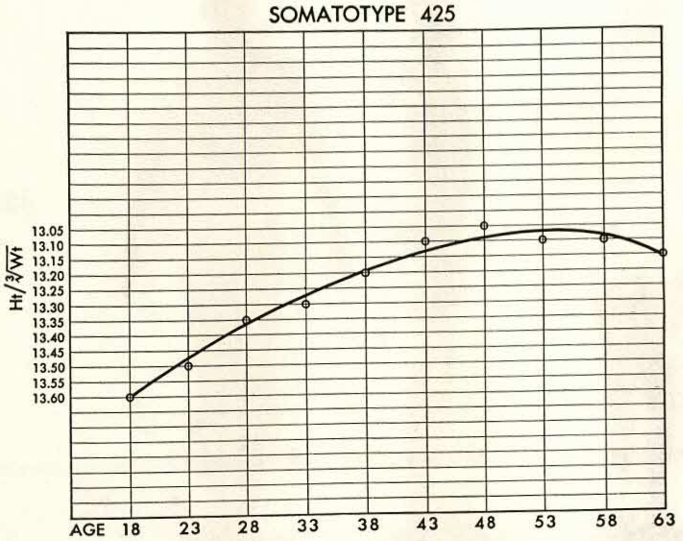
No. 642 *4 2 4* (*13*) 4 2 4–5 3 3 (4½ 2½ 3½) 13.15 at 19
4½ 2½ 3½, 4 2½ 3½, 4 2½ 3½, 4½ 2½ 3½, 4½ 3 3

424



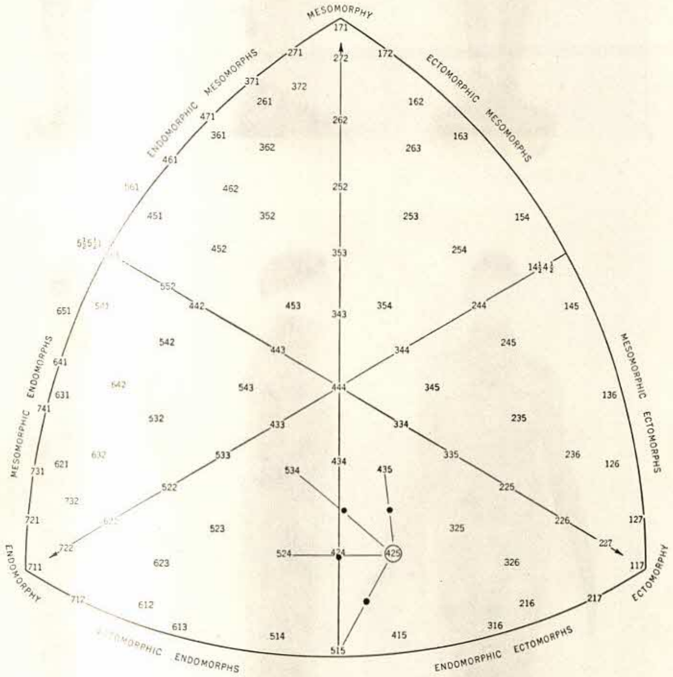
No. 643 *4 2 4* (*14*) 4 2 4–5 3 4 (4½ 2½ 4) 13.06 at 22
5 2 4, 4½ 2½ 3½, 4½ 2 4½, 4½ 2½ 4, 4½ 2½ 4

Somatotype 4 2 5 *(Endomorphic ectomorphy, 11-level.) Wallabies, kangaroos. Taller, more ectomorphic marsupials. Shy and much hunted, they rely on their length of limb for speedy escape rather than on hiding in holes. One might call a kangaroo an opossum-hare.* 644–655.



Weight for Age and Height

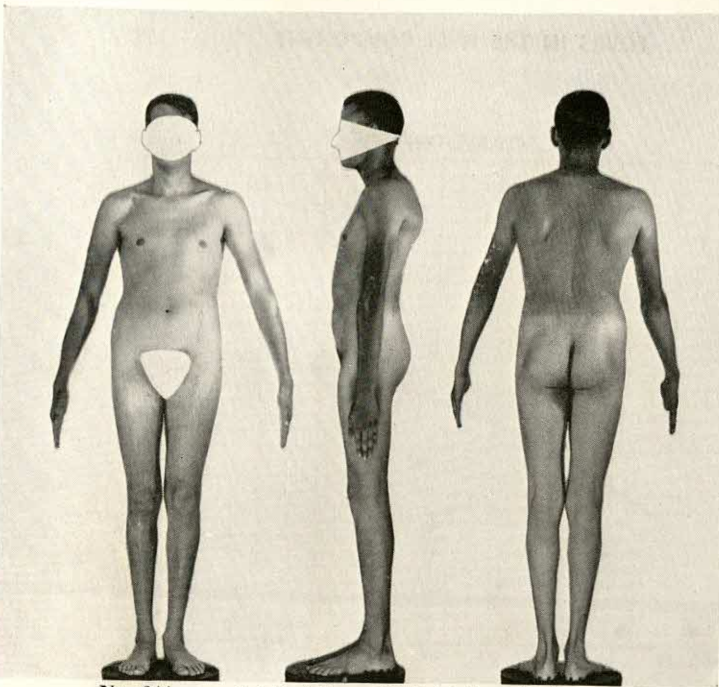
Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	167	172	177	180	183	187	189	188	186	185
74	161	165	169	173	176	179	181	180	179	177
73	154	159	163	166	169	172	174	173	172	171
72	147	152	156	159	162	165	167	166	165	163
71	141	146	150	153	155	158	160	159	158	157
70	136	140	143	146	149	152	154	153	152	151
69	130	134	137	140	143	146	147	147	145	144
68	124	128	132	134	137	139	141	140	139	138
67	119	122	126	128	131	133	135	134	133	132
66	113	117	120	122	125	127	129	128	127	126
65	108	111	114	117	119	121	123	122	121	120
64	103	106	109	111	114	116	117	117	115	114
63	99	101	104	106	109	110	112	111	110	109
62	94	97	99	101	103	105	106	106	105	102
61	89	92	95	96	99	100	102	101	101	99



Rarity 3. Incidence 5 per thousand. A little commoner than the 4 2 4 and that would be very surprising, since the mean for ectomorphy in the male is 3.42, were we not aware of nature's apparent preference for the total strength of 11 in the three components. Evidence of this preference is to be found in almost every family of somatotypes examined. (By a "family" of somatotypes, in this instance, is meant any series in which two of the components are held constant while the third varies. Thus 4 2 4 and 4 2 5 are a family, as are 2 5 3, 3 5 3 and 4 5 3.)

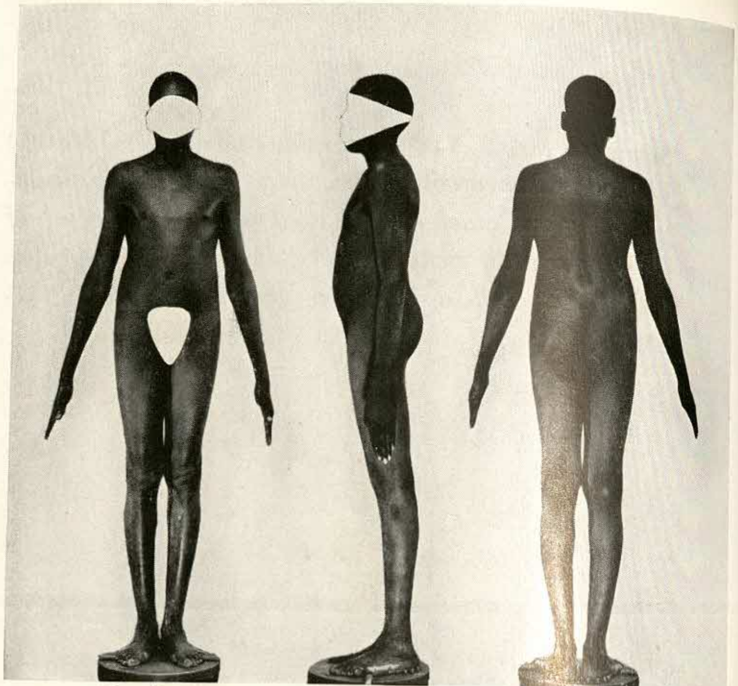
The 4 2 5 enjoys the same immunity from contemporary persecution that blesses the boyhood life of the 4 2 4. His rounded cheeks, his soft frail body, his broomstick arms and delicate hands, and his characteristic self-deprecatory manner of speaking and moving—all this in conjunction with the shy social personality which tends to emanate from such an organic foundation, renders this somatotype inoffensive in very much the way that a weakling is inoffensive. The great majority of contemporary youths will let a 4 2 5 alone, or will tolerate and play with him as they tolerate the old broken-down Collie next door. There are a few sadistic exceptions, and also a few vicious near-weaklings who tend to prey on the true weaklings, but usually these sooner or later "get theirs" from some watchfully chivalrous mesomorph who cruises in the environment.

The 4 2 5, like the 2 2 5 and 3 2 5, is almost certainly more common both in the ranks of Phi Beta Kappa and on the hebephrenic wards of mental hospitals, than in the general population. Mesopenia may mean hebephrenia, but it usually means also an earnest try for good grades.

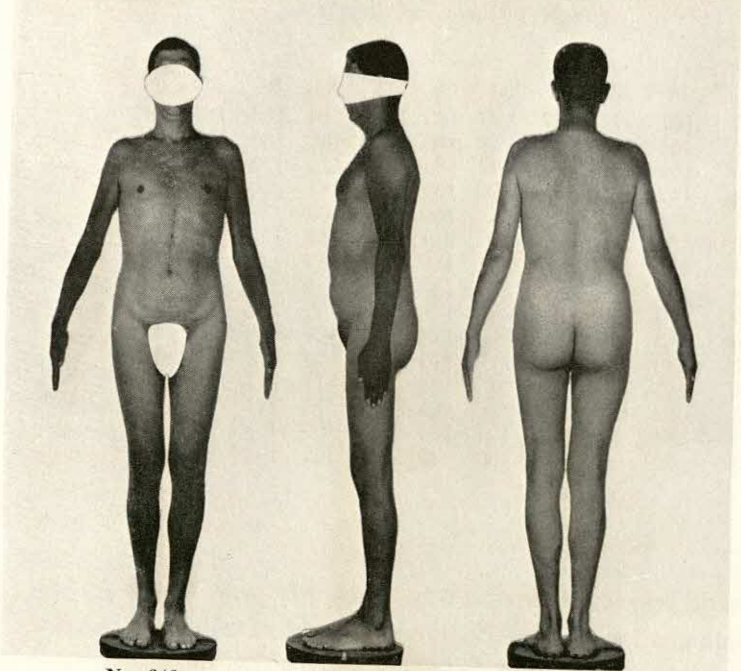


No. 644 *4 2 5* (*1*) 4 2 5–4 2 5 13.60 at 18
4 2 5, 4 2 5, 4 1½ 5, 4 2 4½, 3½ 1½ 5½

425

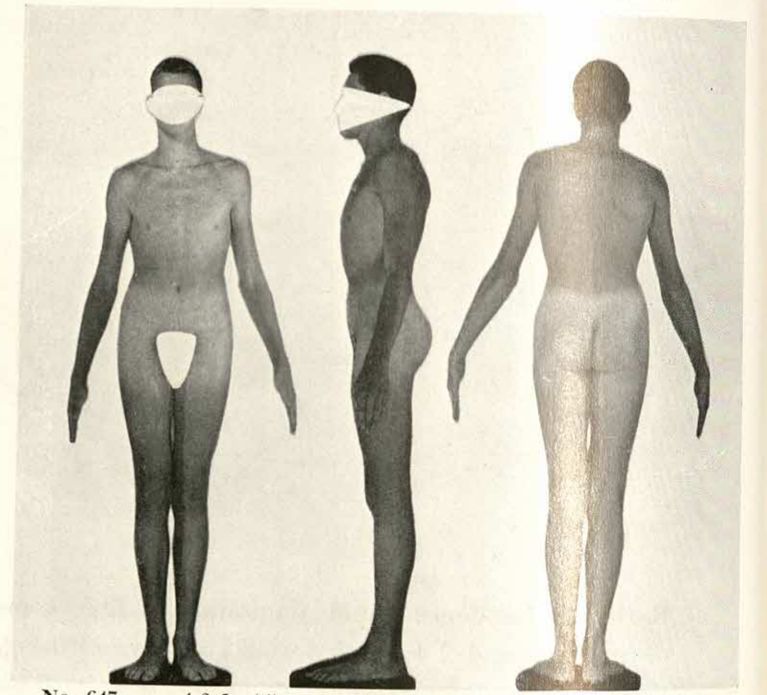


No. 645 *4 2 5* (*2*) 4 2 5–4 2 5 13.12 at 39
4 2½ 4½, 4 2 5, 3½ 1½ 6½, 4 3 3½, 3½ 1½ 5½

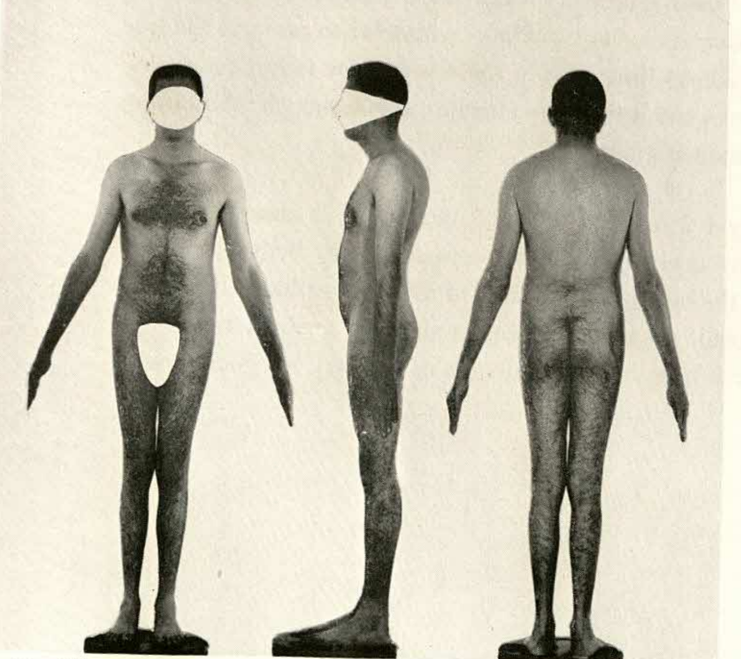


No. 646 *4 2 5* (*3*) 4 2 5–4 2 5 13.08 at 44
4 1½ 5, 4 2 4½, 4 2 5, 4 2 4½, 4 2 5

425

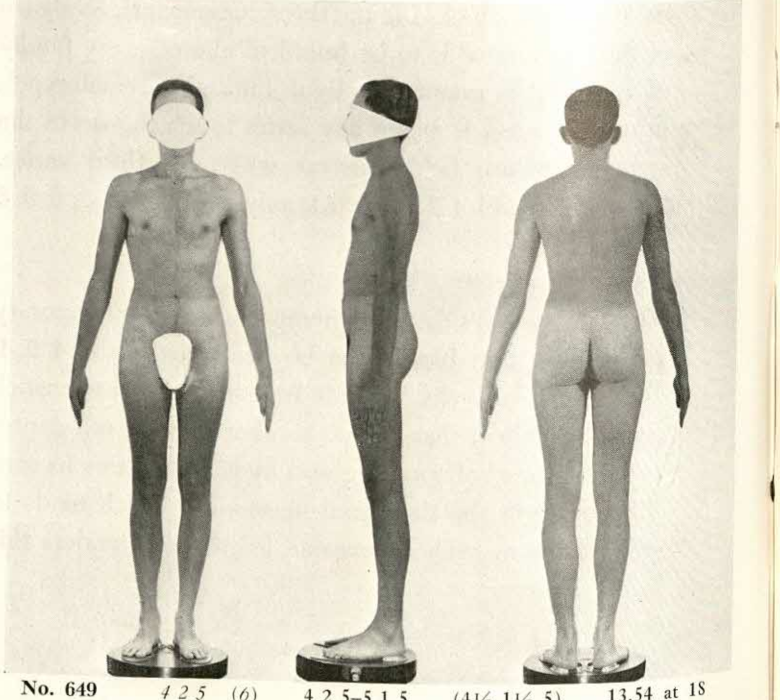


No. 647 *4 2 5* (*4*) 4 2 5–4 3 5 (4 2½ 5) 13.53 at 19
3½ 2½ 5½, 4 2½ 5, 3½ 2 5½, 4 2½ 5, 4½ 2½ 5



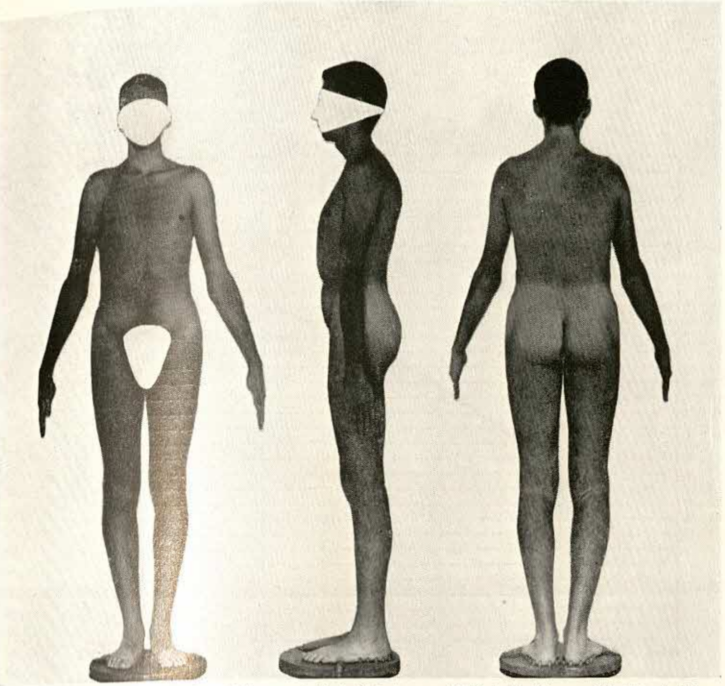
No. 648 *4 2 5* (*5*) 4 2 5–4 3 5 (4 2½ 5) 13.27 at 28
4 4 4, 4 2 5, 3½ 2 5½, 4 2½ 5, 3½ 2 5½

425

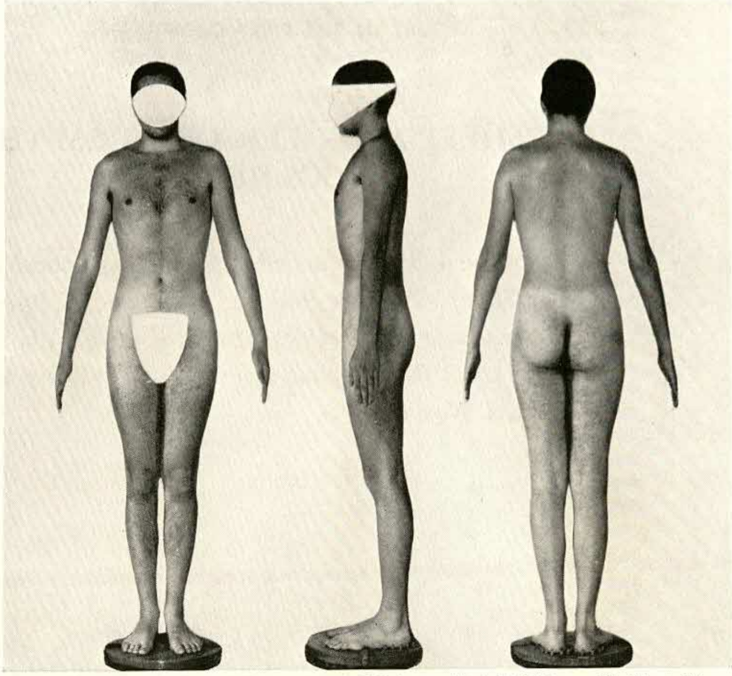


No. 649 *4 2 5* (*6*) 4 2 5–5 1 5 (4½ 1½ 5) 13.54 at 18
4½ 1 5, 4 1½ 5, 4½ 2 4½, 4½ 1½ 4½, 4 1½ 5½

425

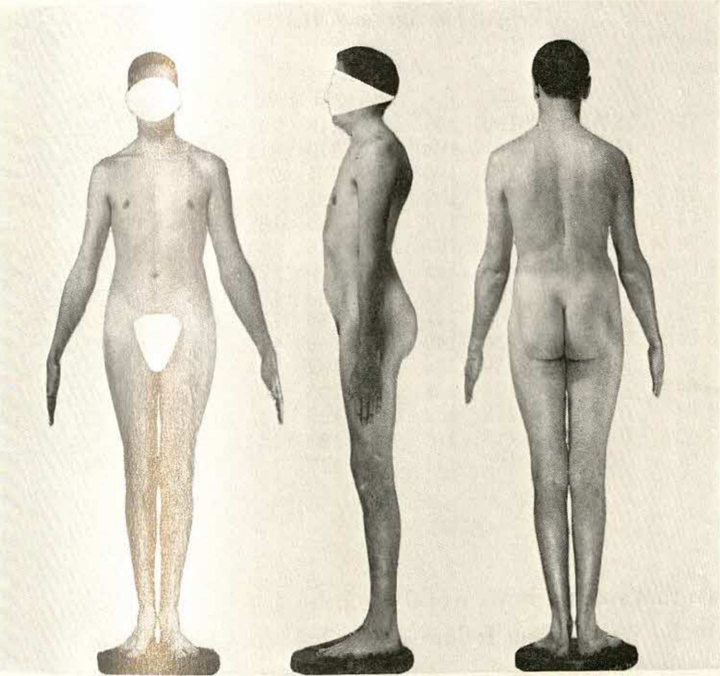


No. 650 *4 2 5* (*7*) 4 2 5–5 1 5 (4½ 1½ 5) 13.41 at 22
3½ 1½ 5½, 4½ 1½ 4½, 4½ 1 5, 4½ 2 4, 4½ 2½ 5

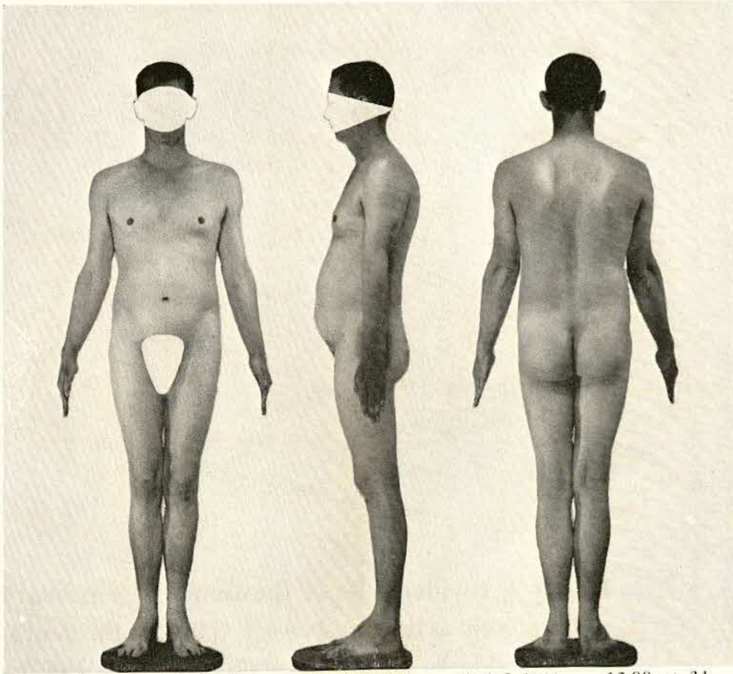


No. 651 *4 2 5* (*8*) 4 2 5–5 2 4 (4½ 2 4½) 13.29 at 20
4½ 2½ 4, 4½ 2½ 4½, 4½ 1½ 5, 4½ 2 5, 5 2 4

425

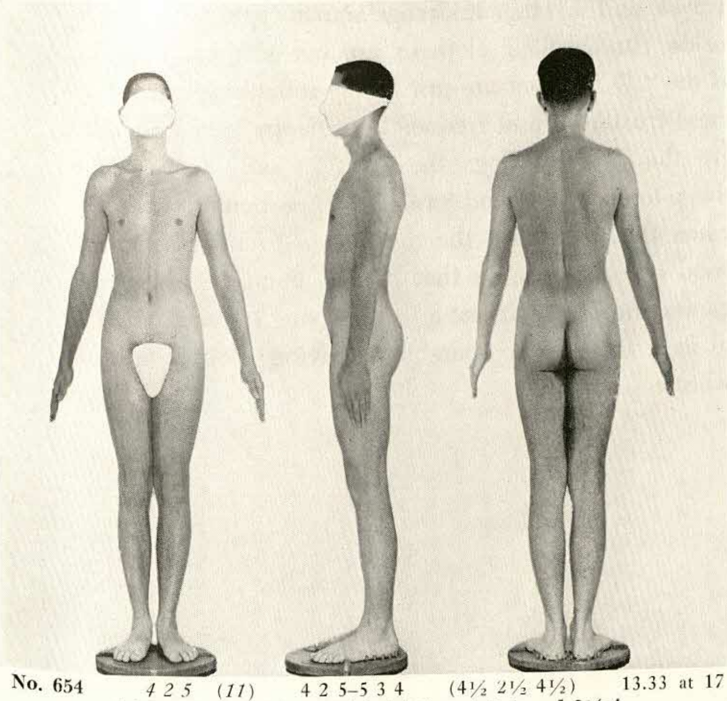


No. 652 *4 2 5* (*9*) 4 2 5–5 2 4 (4½ 2 4½) 13.22 at 23
4 2½ 4½, 4½ 2 4½, 4½ 2½ 4½, 4½ 2½ 4½, 4½ 1½ 5

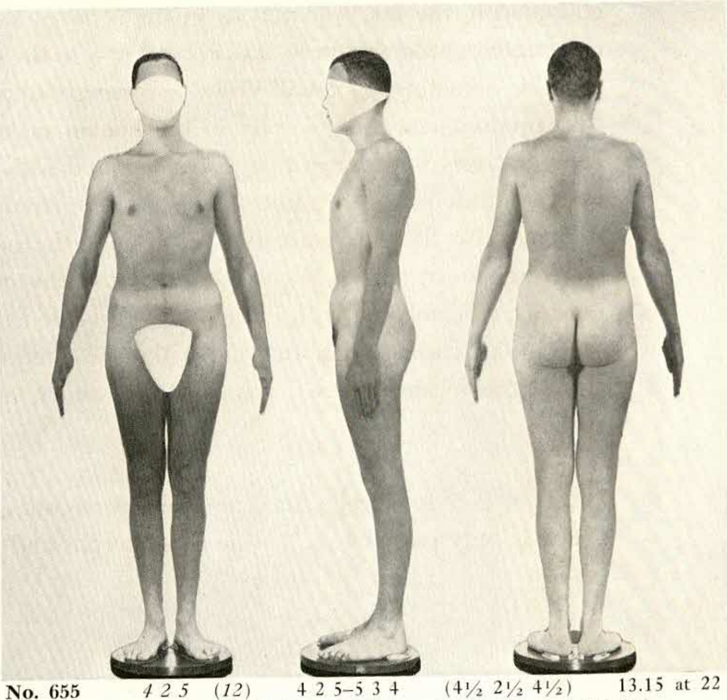


No. 653 *4 2 5* (*10*) 4 2 5–5 2 4 (4½ 2 4½) 12.99 at 34
4½ 2 4½, 4½ 2 4½, 4½ 3 3½, 4½ 2 4. 4½ 2 5

425



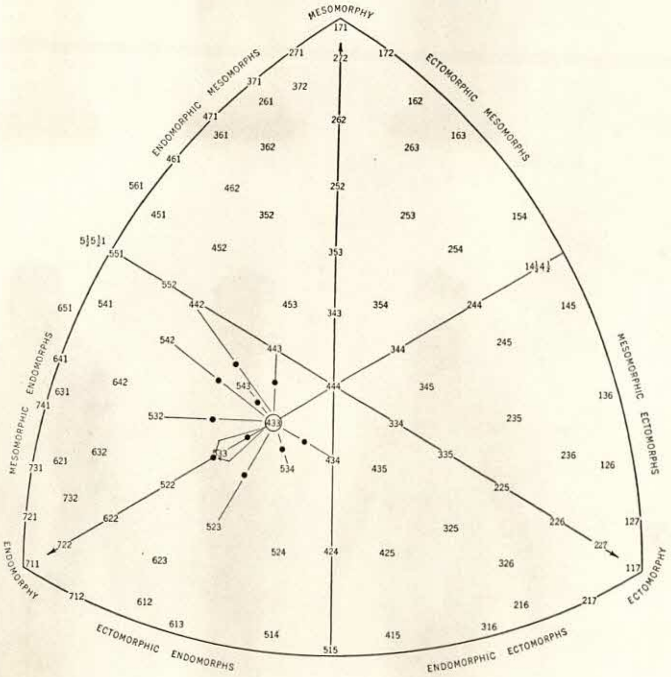
No. 654 *4 2 5* (*11*) 4 2 5–5 3 4 (4½ 2½ 4½) 13.33 at 17
4 2 5, 4 2½ 4½, 4½ 2½ 4½, 4 2 5, 5 2½ 4



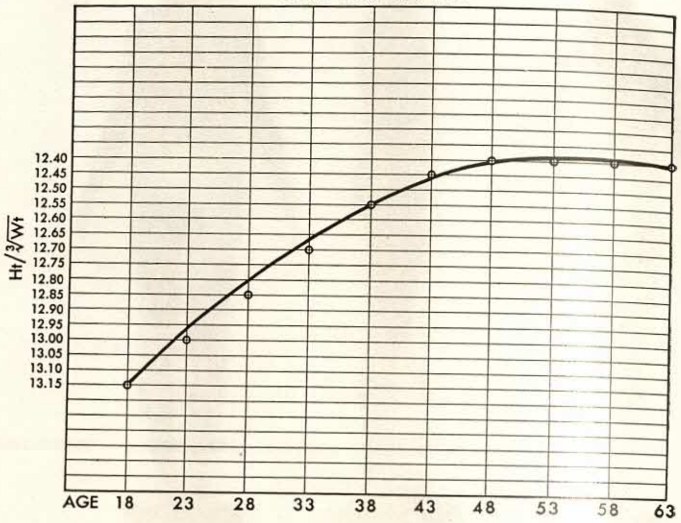
No. 655 *4 2 5* (*12*) 4 2 5–5 3 4 (4½ 2½ 4½) 13.15 at 22
4½ 2½ 4½, 4½ 3 4, 4½ 3 4, 5 2½ 4½, 5 2½ 4½

24. SHEEP AND DEER, OR WHOM THE DOGS HUNT

Somatotype 4 3 3 *(Balanced midrange endomorphy, 10-level.) Sheep. Delicate-limbed, fat-bodied, inoffensive browsers whose personal deportment is usually above reproach except that they eat too much and are too easily influenced. Nos. 656-685.*



SOMATOTYPE 433

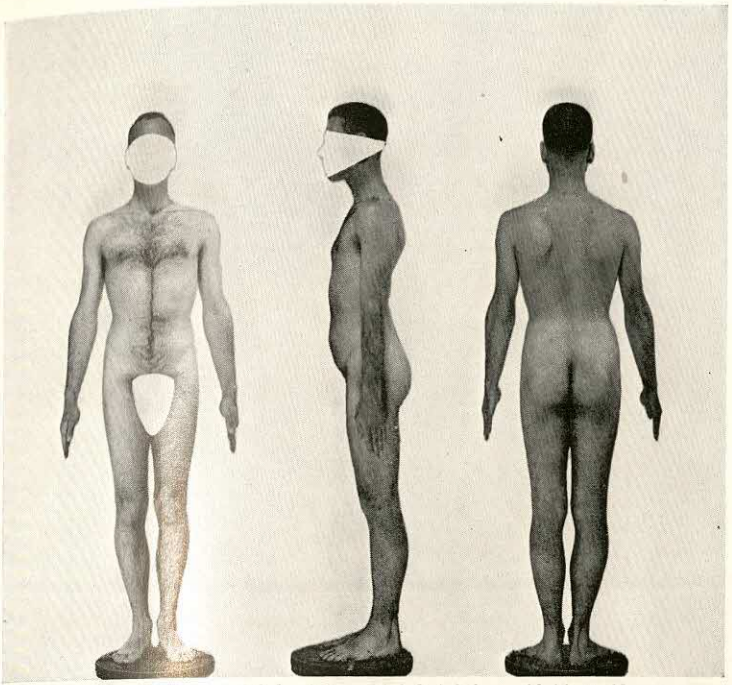


Weight for Age and Height

Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	184	192	199	206	212	218	221	221	221	221
74	177	185	191	198	204	210	212	212	212	212
73	170	178	184	190	196	201	204	204	204	204
72	163	169	176	182	188	192	195	195	195	195
71	156	163	169	174	180	185	187	187	187	187
70	150	156	162	167	173	178	180	180	180	180
69	144	150	156	161	166	170	172	172	172	172
68	138	144	149	154	159	163	165	165	165	165
67	132	137	142	147	152	156	158	158	158	158
66	126	131	136	140	145	149	151	151	151	151
65	120	125	130	134	138	142	144	144	144	144
64	115	119	124	128	132	135	137	137	137	137
63	109	114	118	122	126	129	131	131	131	131
62	104	108	113	116	120	123	124	124	124	124
61	99	103	107	111	114	117	119	119	119	119

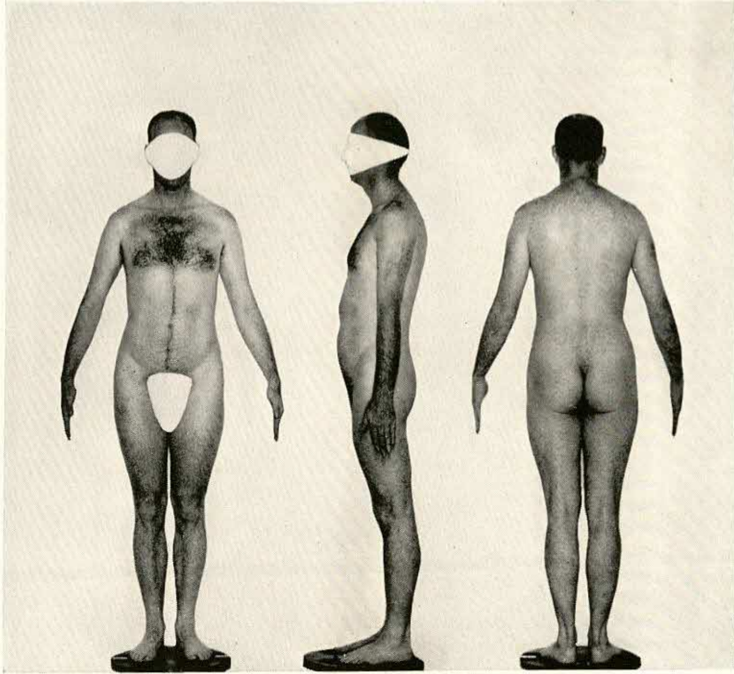
Rarity 3. Incidence 9 per thousand. Seen about twice as frequently as the 4 2 4 or 4 2 5 but far the most scarce of the midrange somatotypes—in fact the only midranger scarce enough to be classed as rarity 3. This is our first endomorph, the first somatotype in the series with that component predominant. As we proceed now to the endomorphic somatotypes it will grow increasingly apparent that predominant endomorphy in the human male is a comparatively uncommon thing. As compared with ectomorphs, endomorphs are uncommon. As compared with mesomorphs, they are rare. But for women the perfect converse can be stated. For women, mesomorphs are uncommon as compared with ectomorphs, and rare as compared with endomorphs. In women the 4 3 3 is one of the common somatotypes, possibly as common as the male 3 4 3.

If the 4 2 5 is largely immune from persecution, the 4 3 3 is only partially so. To the mesomorphs and great cats that roam a boy's world the little 4 3 3 is a chubby, usually ingratiating fellow, easily led, sociable, and unfeared. He does not amount to much but since the mesomorphs are fed at home they do not eat him. To the wolves, and to other midrange somatotypes who on the inside (under their clothes) are not soft endomorphs, as the 4 3 3 is, but are *just barely* something harder, to these frustrated and frequently unhappy predators who are the common dogs the 4 3 3 is only too often a sheep to be chased and torn. This is particularly the case when the 4 3 3 has the misfortune to have inherited good coördination, so that he can compete a little at games and can fight just a little. Trying to teach a 4 3 3 to fight may be comparable to giving a sheep a wolf whistle.

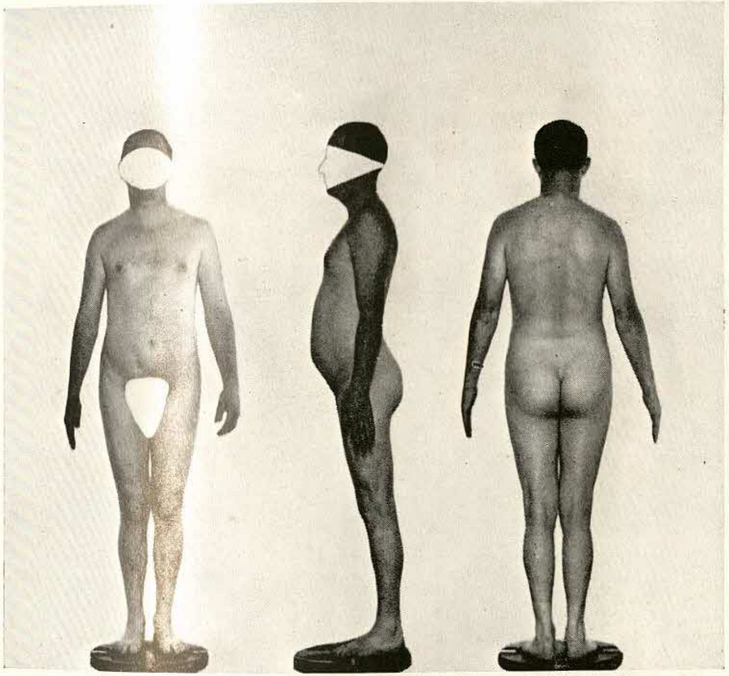


No. 656 *4 3 3* (*1*) 4 3 3–4 3 3 13.14 at 19
4 2½ 3½, 4 3 3, 4 3 3½, 4 3 3, 4 3 3

433

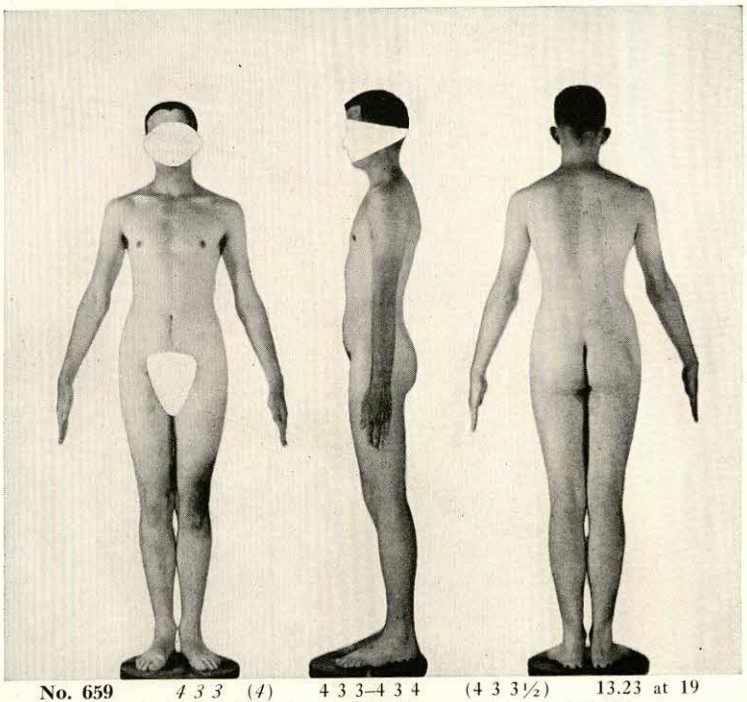


No. 657 *4 3 3* (*2*) 4 3 3–4 3 3 12.71 at 33
3½ 3 3½, 4 3½ 3, 4 3 3, 4 3 3, 4 3½ 3

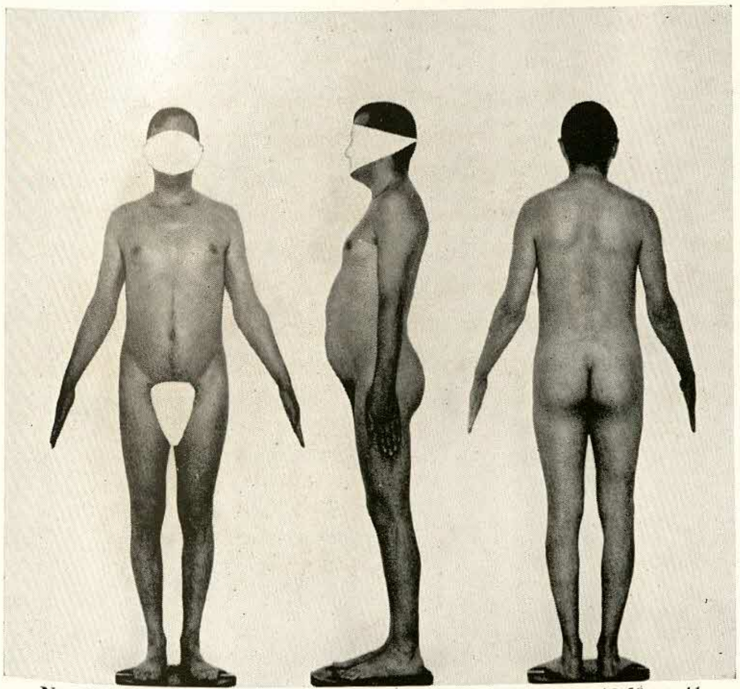


No. 658 *4 3 3* (*3*) 4 3 3–4 3 3 12.48 at 41
4 3½ 2½, 4 3 3, 4½ 2½ 3, 4 3 3, 4 2½ 3½

433

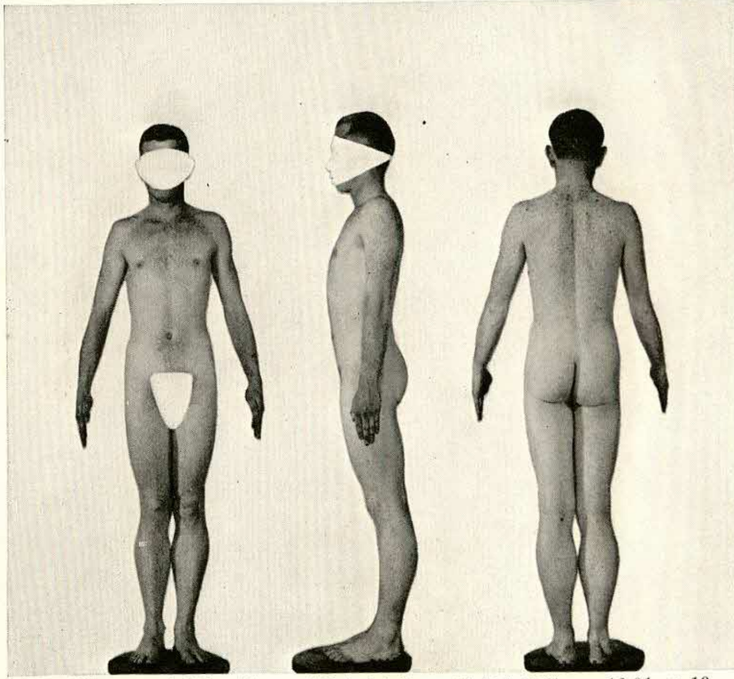


No. 659 *4 3 3* (*4*) 4 3 3–4 3 4 (4 3 3½) 13.23 at 19
4 2½ 3½, 4 3 3½, 4 2½ 4½, 4 2½ 4, 4½ 4 3

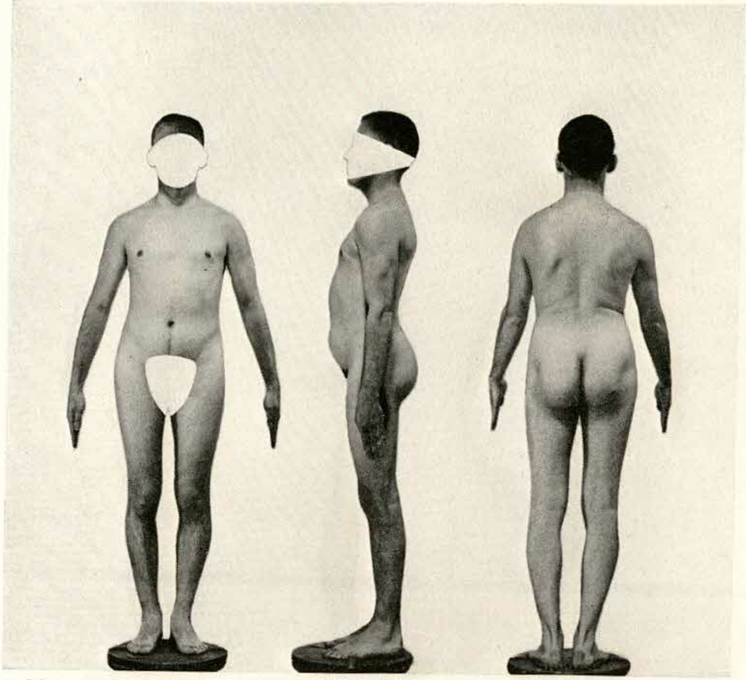


No. 660 *4 3 3* (*5*) 4 3 3–4 3 4 (4 3 3½) 12.59 at 41
4½ 4 2½, 4 3 3½, 4 3 3½, 4 3 3½, 3½ 3 3½

433

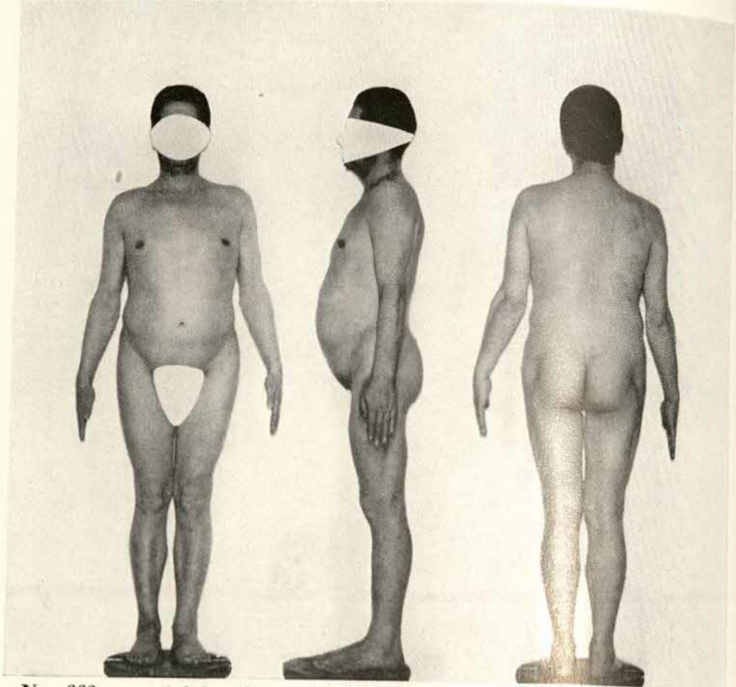


No. 661 *4 3 3* (*6*) 4 3 3–4 4 2 (4 3½ 2½) 13.01 at 19
4 3½ 2½, 4 3½ 2½, 4 3 3, 4 3 3½, 4½ 4½ 1½

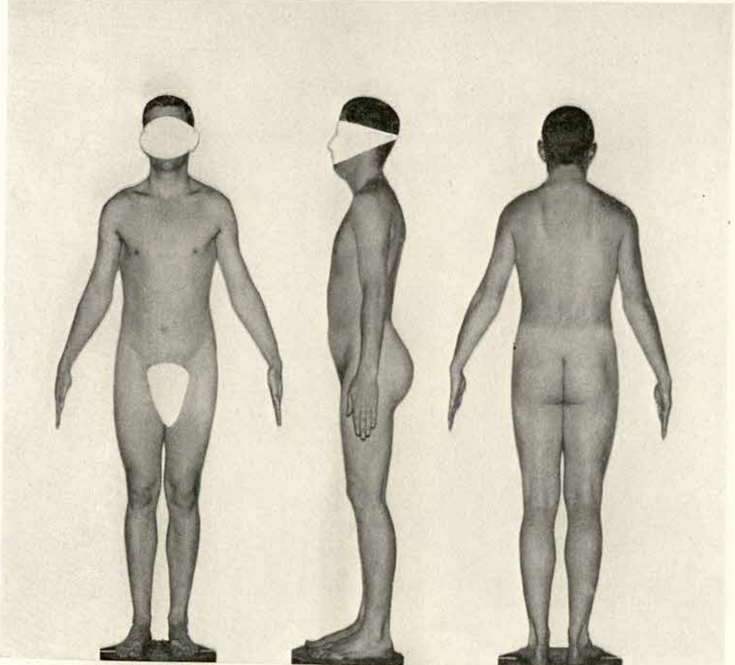


No. 662 *4 3 3* *(7)* 4 3 3–4 4 2 (4 3½ 2½) 12.83 at 24
4 3½ 2½, 4 3½ 2½, 4 3½ 2½, 4 3½ 2½, 3 4 3

433

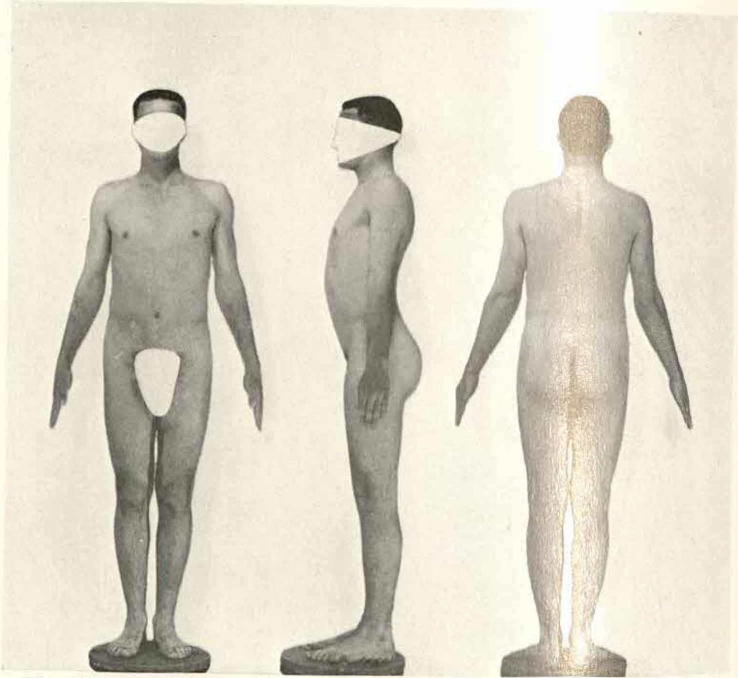


No. 663 *4 3 3* *(8)* 4 3 3–4 4 2 (4 3½ 2½) 12.20 at 46
4½ 3½ 2½, 4 3½ 2½, 4 3½ 2½, 4 3½ 2½, 4 3½ 2½

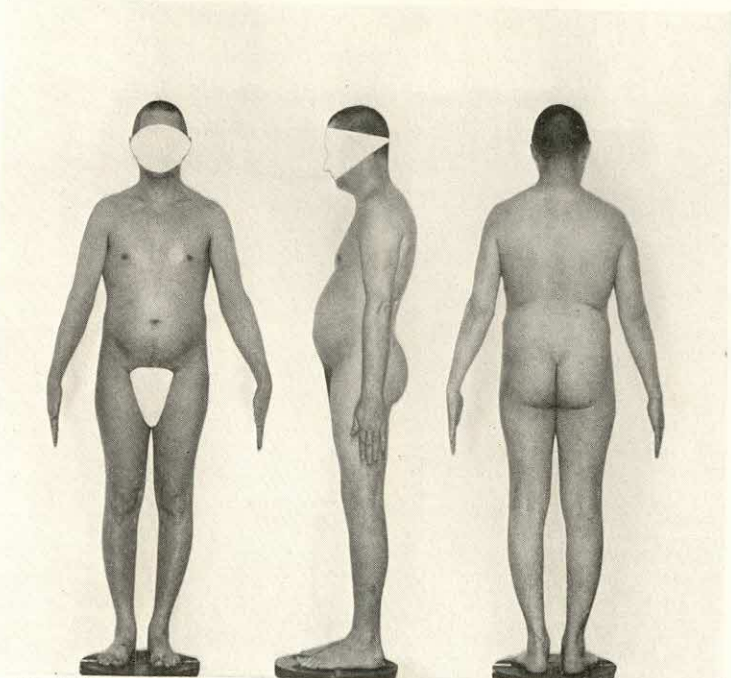


No. 664 *4 3 3* *(9)* 4 3 3–4 4 3 (4 3½ 3) 12.92 at 23
4 4 3, 4 3½ 3, 4 3 3, 4 3½ 3, 4 3½ 3

433

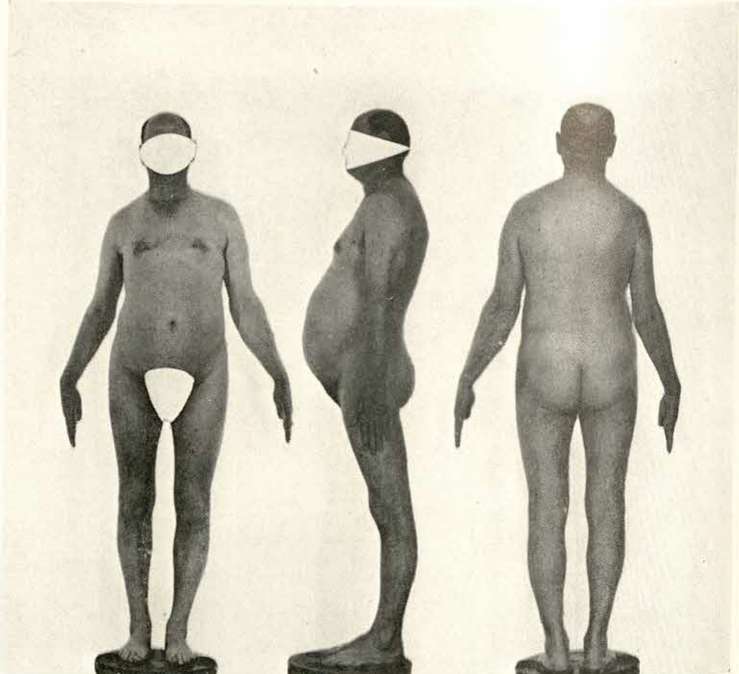


No. 665 *4 3 3* *(10)* 4 3 3–4 4 3 (4 3½ 3) 12.70 at 30
4 4 3, 4 3 3½, 4 3½ 3, 4 3 3, 4 3½ 3

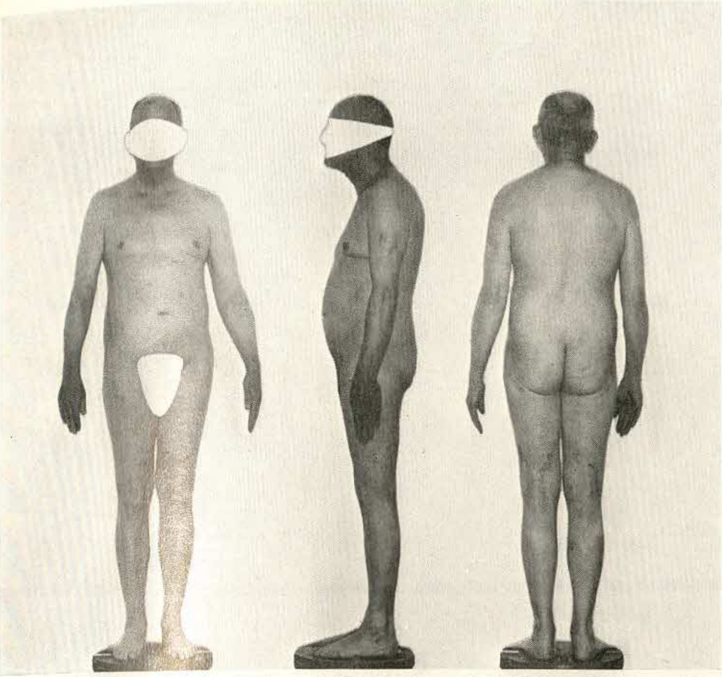


No. 666 *4 3 3* *(11)* 4 3 3–4 4 3 (4 3½ 3) 12.45 at 37
4 3½ 2½, 4 3½ 3, 4 3½ 3½, 4 3½ 2½, 3½ 4 3½

433

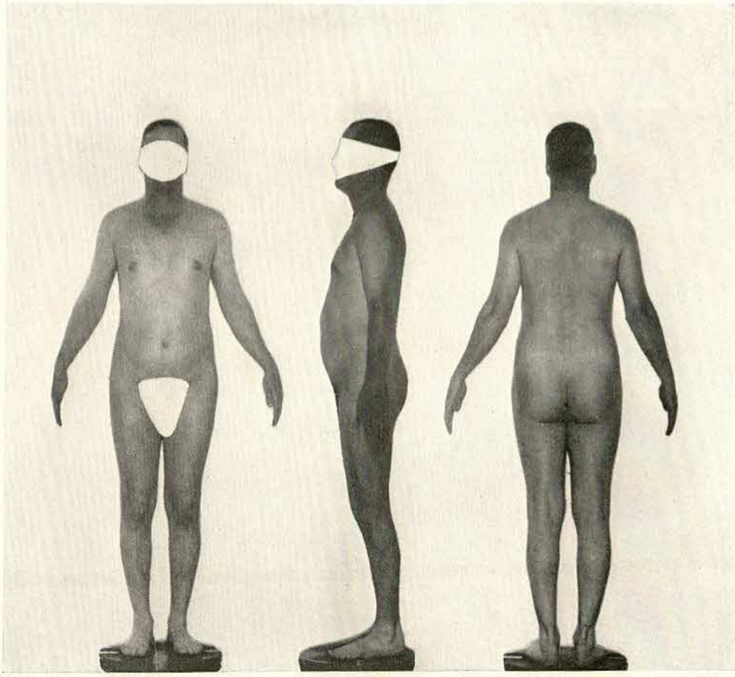


No. 667 *4 3 3* *(12)* 4 3 3–4 4 3 (4 3½ 3) 12.25 at 54
4 4 2½, 4 3½ 3, 4½ 3½ 3, 4½ 3½ 3, 3½ 3½ 3½

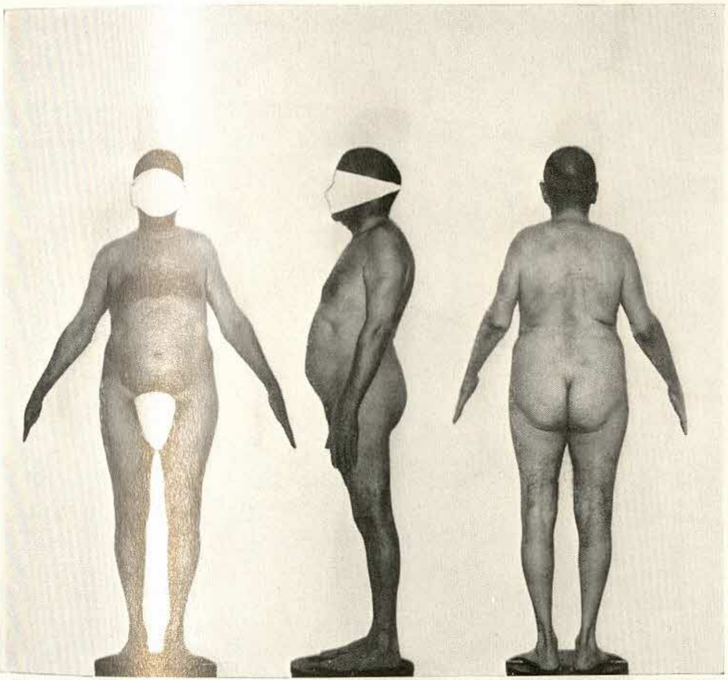


No. 668 *4 3 3* (*13*) 4 3 3–4 4 3 (4 3½ 3) 12.29 at 63
4 3½ 3, 4 3½ 3½, 4 3½ 3, 4 3½ 3, 4 3½ 3½

433

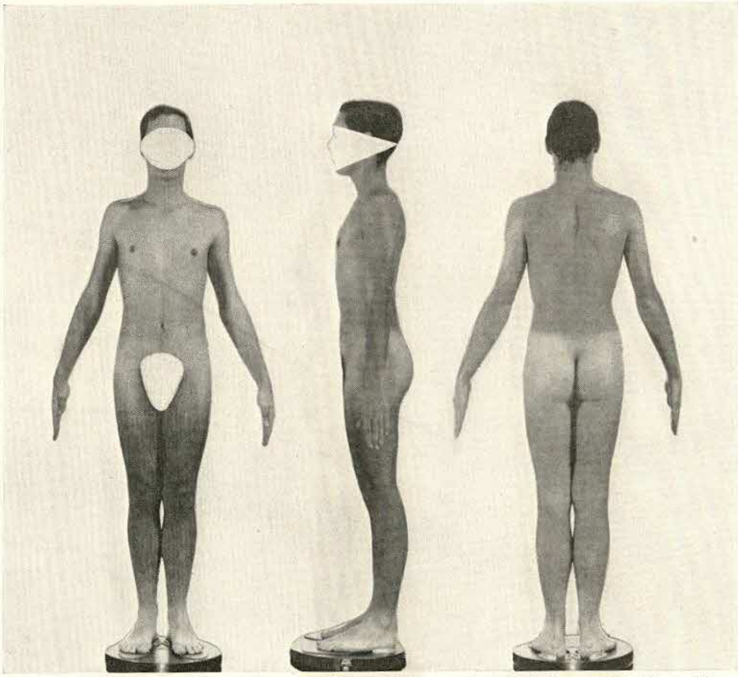


No. 669 *4 3 3* (*14*) 4 3 3–5 2 2 (4½ 2½ 2½) 12.44 at 35
4½ 3 2½, 4½ 2½ 2½, 4½ 2½ 2½, 4½ 2½ 2½, 4½ 2½ 2½

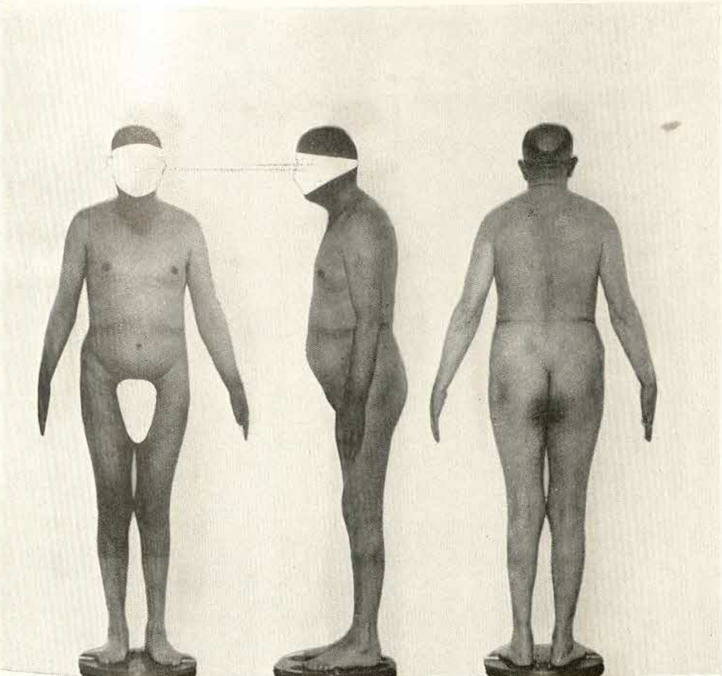


No. 670 *4 3 3* (*15*) 4 3 3–5 2 2 (4½ 2½ 2½) 12.30 at 60
4½ 3 2½, 4½ 2 2½, 4½ 2½ 3½, 4½ 2½ 1½, 4½ 2½ 3

433

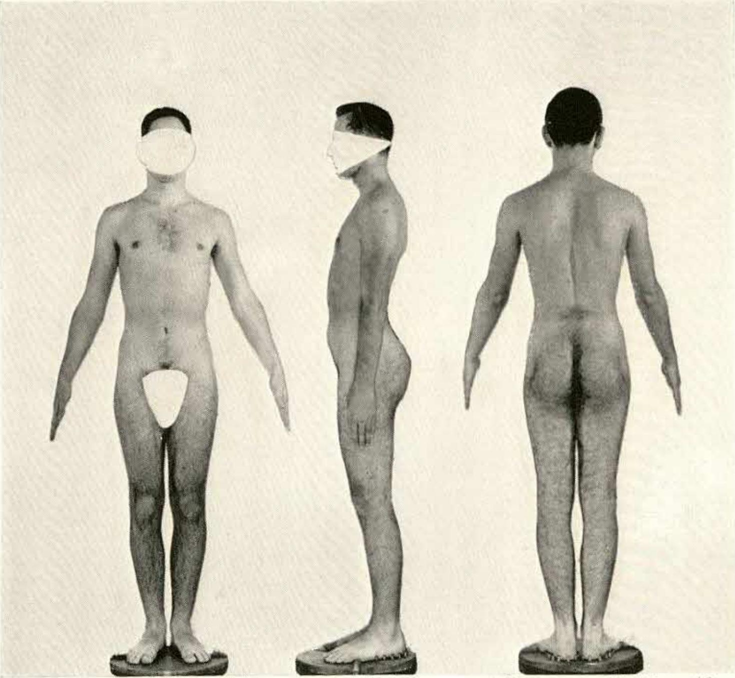


No. 671 *4 3 3* (*16*) 4 3 3–5 2 3 (4½ 2½ 3) 13.05 at 19
4 2½ 3½, 4½ 2½ 3, 4 2½ 3½, 4 2½ 3½, 5 2½ 2½

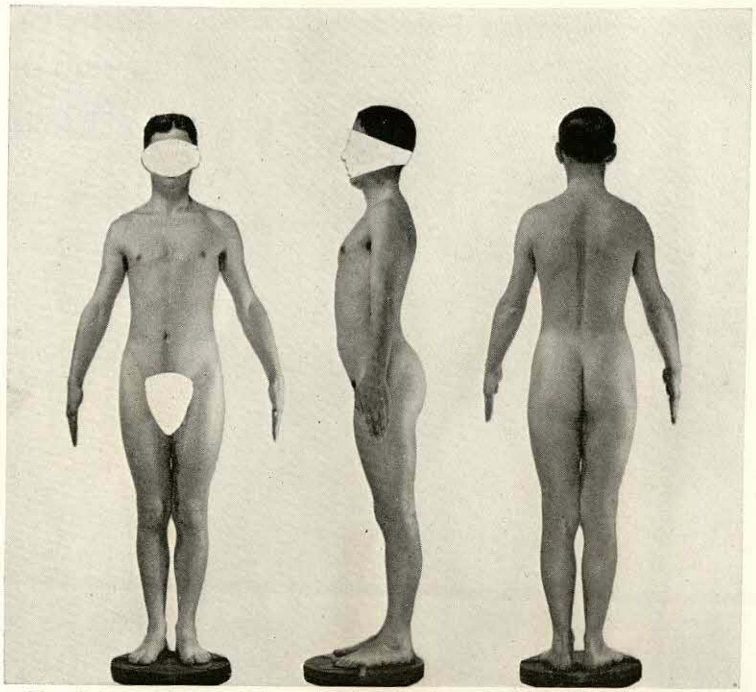


No. 672 *4 3 3* (*17*) 4 3 3–5 2 3 (4½ 2½ 3) 12.36 at 54
4½ 3 2½, 4½ 2 3, 4½ 2½ 3, 4½ 2½ 3, 4½ 1½ 3½

433

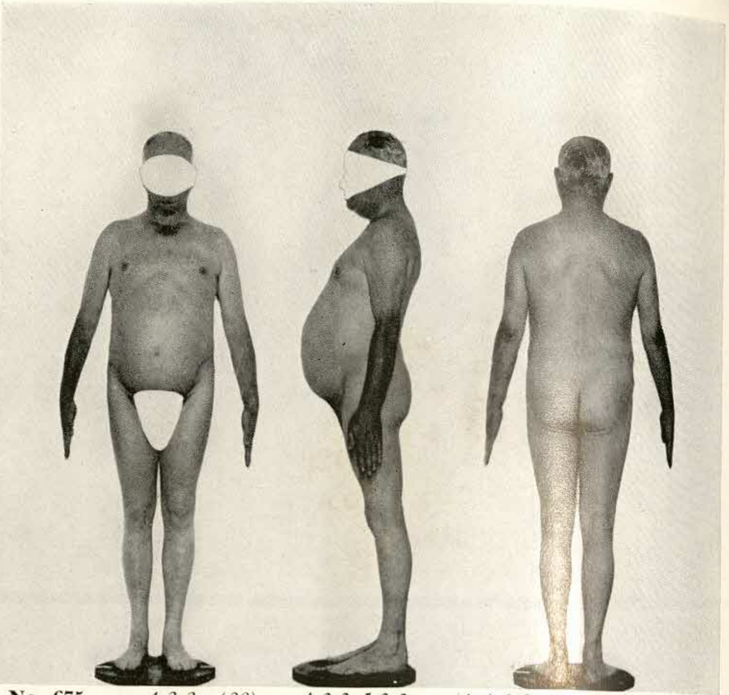


No. 673 *4 3 3* (*18*) 4 3 3–5 3 2 (4½ 3 2½) 12.92 at 18
4½ 3½ 2½, 4½ 3 2½, 4½ 3½ 2½, 4½ 2½ 3, 4½ 3 2½

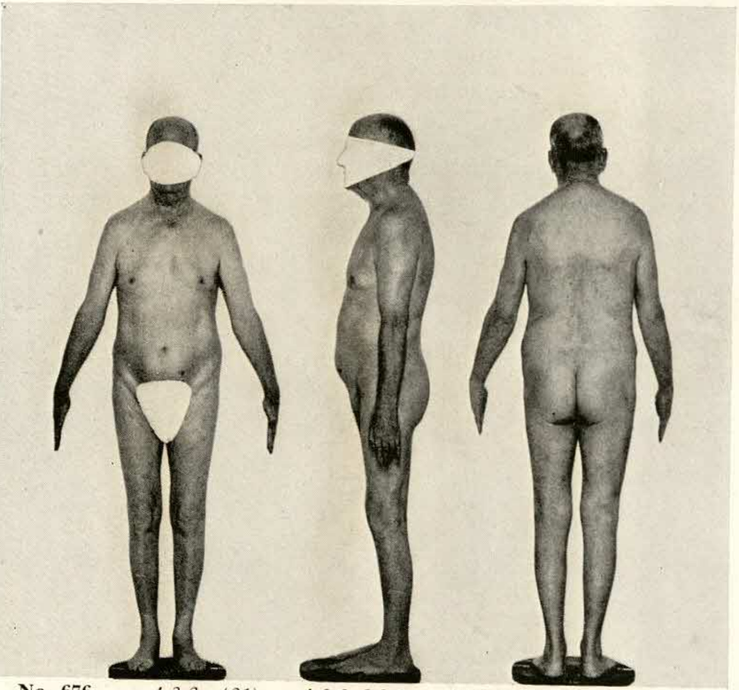


No. 674 *4 3 3* (*19*) 4 3 3–5 3 2 (4½ 3 2½) 12.73 at 22
4½ 3 2½, 4½ 2½ 2½, 4½ 3 2½, 4½ 3 3, 5 3 2½

433

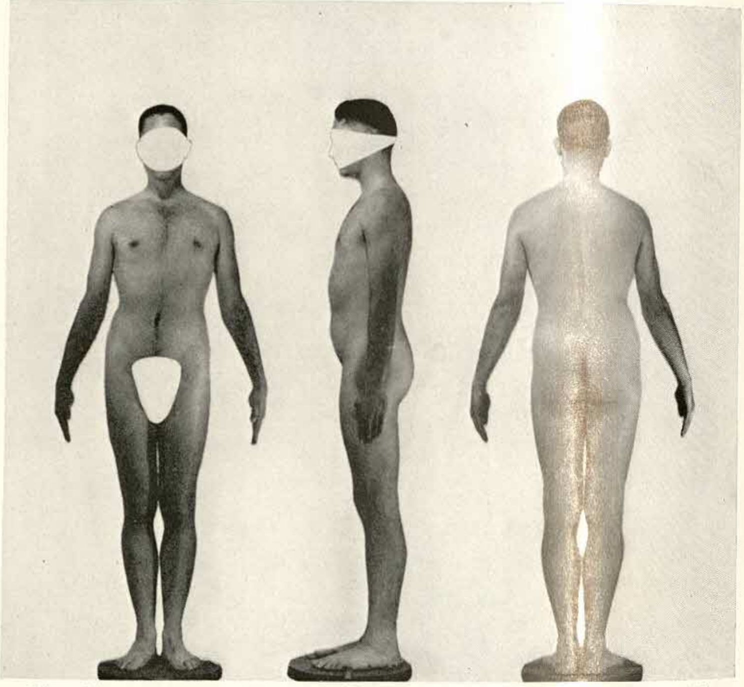


No. 675 *4 3 3* (*20*) 4 3 3–5 3 2 (4½ 3 2½) 12.05 at 54
4½ 3½ 2, 4½ 3 2½, 4 3 3, 5 3 2½, 4 3 3½

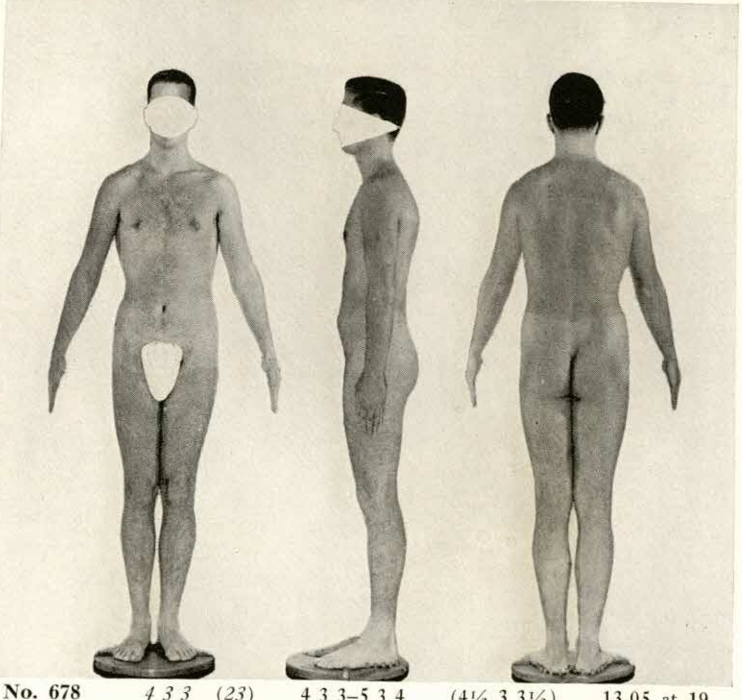


No. 676 *4 3 3* (*21*) 4 3 3–5 3 2 (4½ 3 2½) 12.19 at 66
4½ 3½ 2, 4½ 3 2½, 4½ 3½ 2, 4½ 3 2½, 4 3 3

433

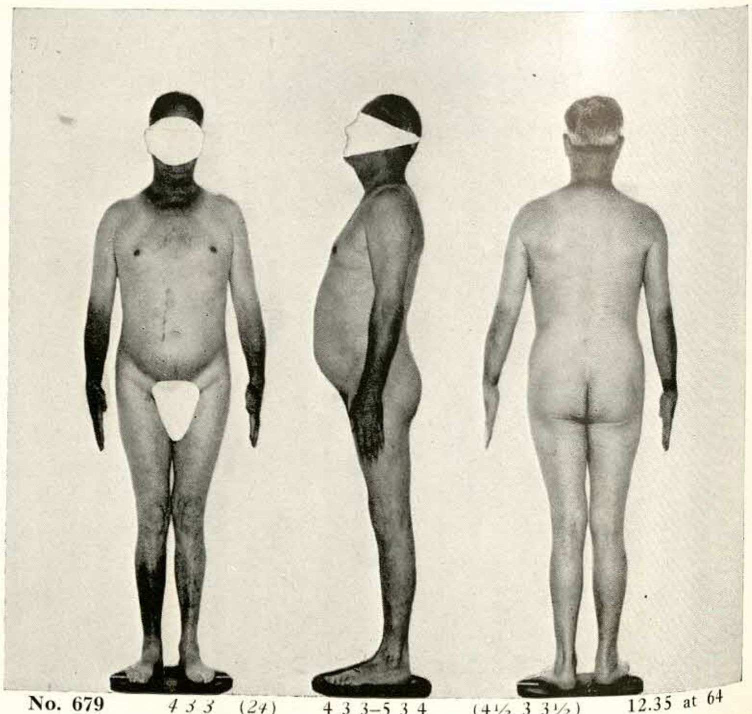


No. 677 *4 3 3* (*22*) 4 3 3–5 3 3 (4½ 3 3) 12.80 at 24
4½ 3 4, 4½ 3½ 2½, 4½ 3 3, 4½ 3 3, 4½ 3½ 2½

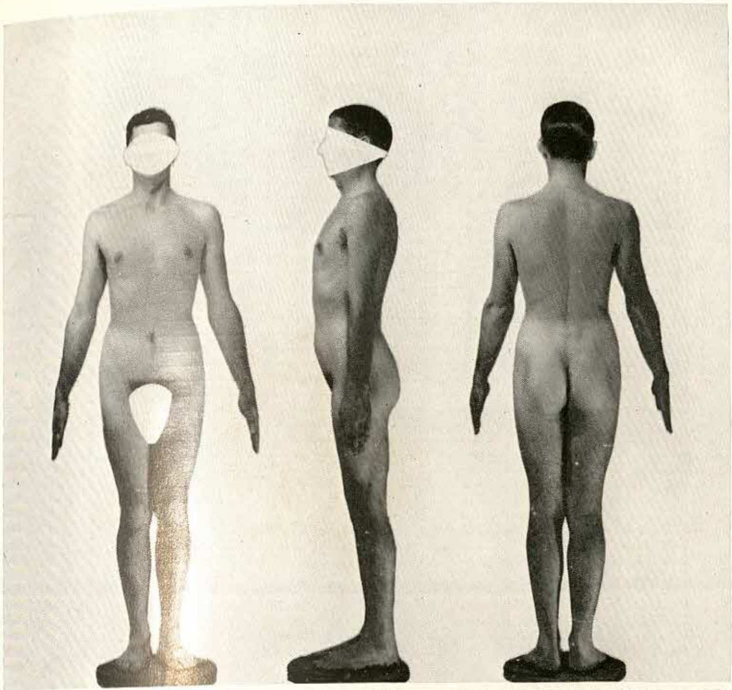


No. 678 *4 3 3* (*23*) 4 3 3–5 3 4 (4½ 3 3½) 13.05 at 19
4 3 4, 4½ 3 3½, 4½ 3½ 3, 4½ 3 3½, 5 3½ 3

433

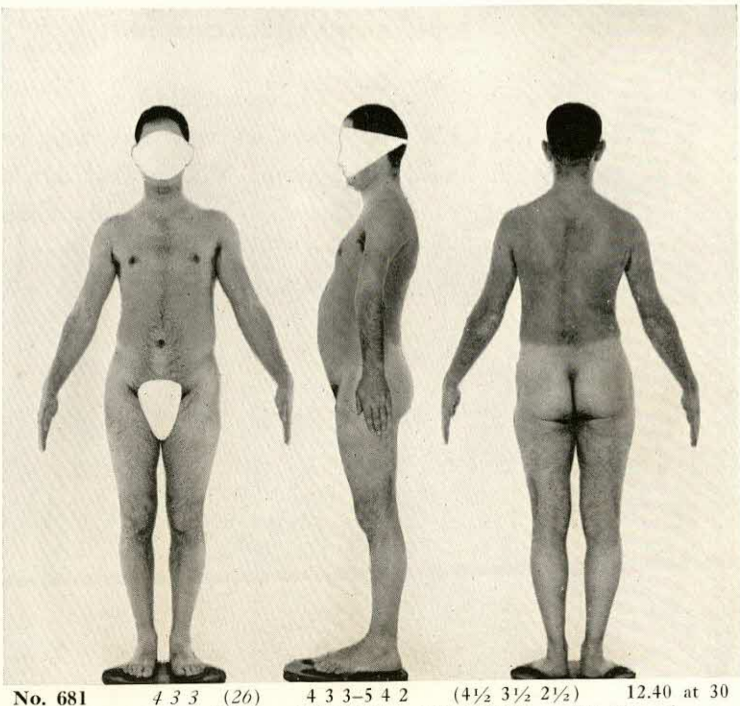


No. 679 *4 3 3* (*24*) 4 3 3–5 3 4 (4½ 3 3½) 12.35 at 64
4½ 3½ 3, 4½ 3 3½, 4 3 3½, 4½ 3 3½, 4 3 4½

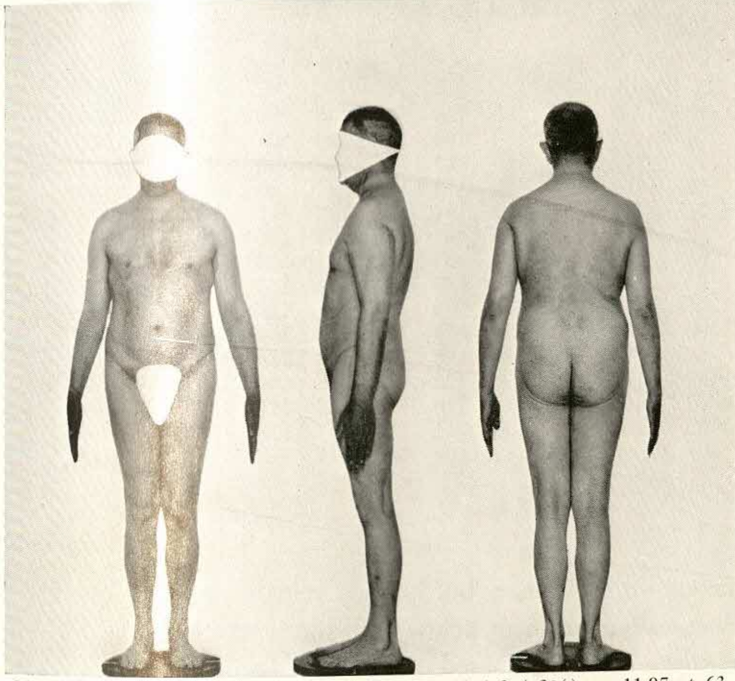


No. 680 *4 3 3 (25)* 4 3 3–5 4 2 (4½ 3½ 2½) 12.62 at 23
4½ 3½ 3, 4½ 3½ 2½, 4½ 3½ 2½, 4½ 3½ 3, 4½ 3½ 2½

433

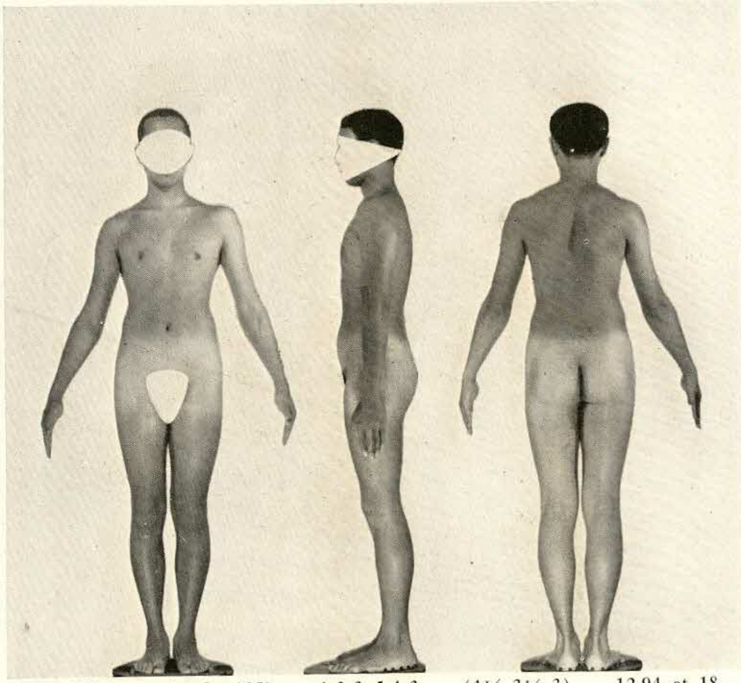


No. 681 *4 3 3 (26)* 4 3 3–5 4 2 (4½ 3½ 2½) 12.40 at 30
4½ 4 2½, 4½ 3 3, 4½ 3 2½, 4½ 3½ 2½, 4½ 3½ 2½

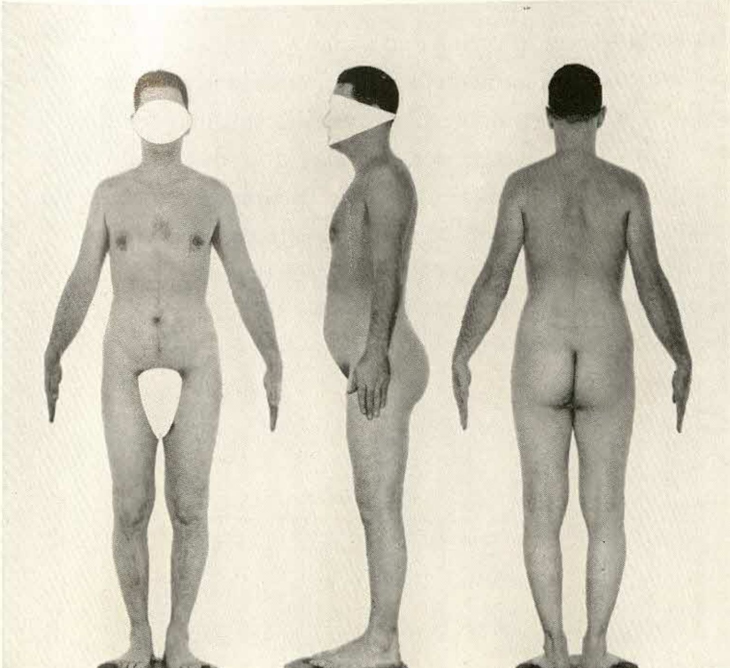


No. 682 *4 3 3 (27)* 4 3 3–5 4 2 (4½ 3½ 2½) 11.97 at 63
4½ 3½ 2½, 4½ 3½ 2½, 4½ 3½ 3, 4½ 2½ 2½, 4½ 3½ 3

433

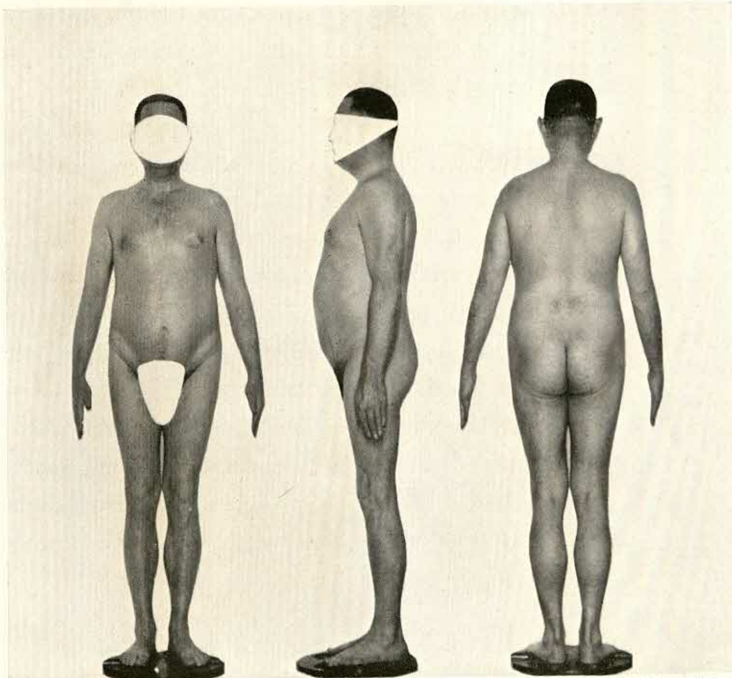


No. 683 *4 3 3 (28)* 4 3 3–5 4 3 (4½ 3½ 3) 12.94 at 18
4½ 3 3½, 4½ 3 3, 4½ 3½ 3½, 4½ 3 3, 4½ 4 3



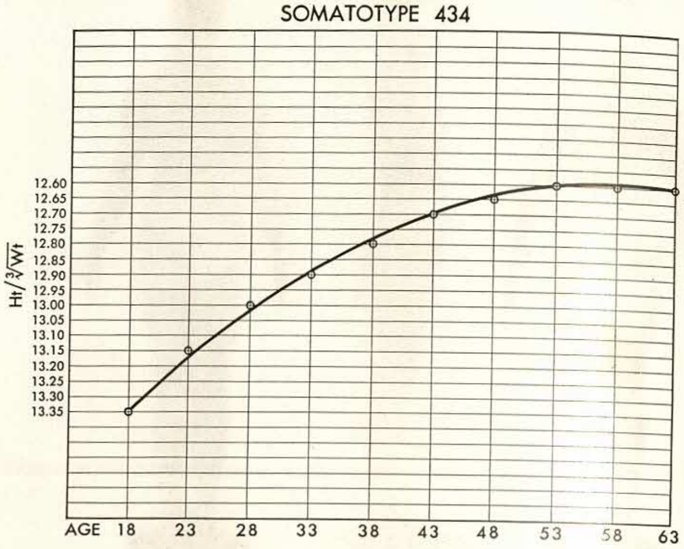
No. 684 *4 3 3 (29)* 4 3 3–5 4 3 (4½ 3½ 3) 12.37 at 32
4½ 3½ 3, 4½ 3½ 3, 4½ 3½ 2½, 4½ 3½ 3½, 4½ 3½ 2½

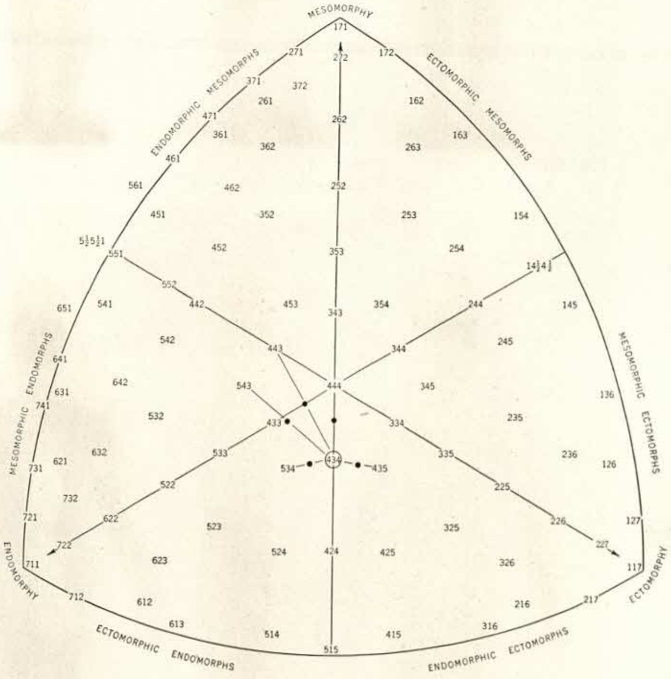
433



No. 685 *4 3 3 (30)* 4 3 3–5 4 3 (4½ 3½ 3) 12.05 at 54
4½ 3 3, 4½ 3½ 3, 4 3½ 2½, 4½ 3½ 2½, 3½ 3 4

Somatotype 4 3 4 *(Balanced midrange endomorph-ectomorphs, 11-level.) Pronghorns. Middle-sized antelopes. Taller, rangier and much faster than sheep, but chunkier than the white-tailed deer. They browse for a living, and meet trouble by trusting to their nimble legs. Nos. 686–699.*





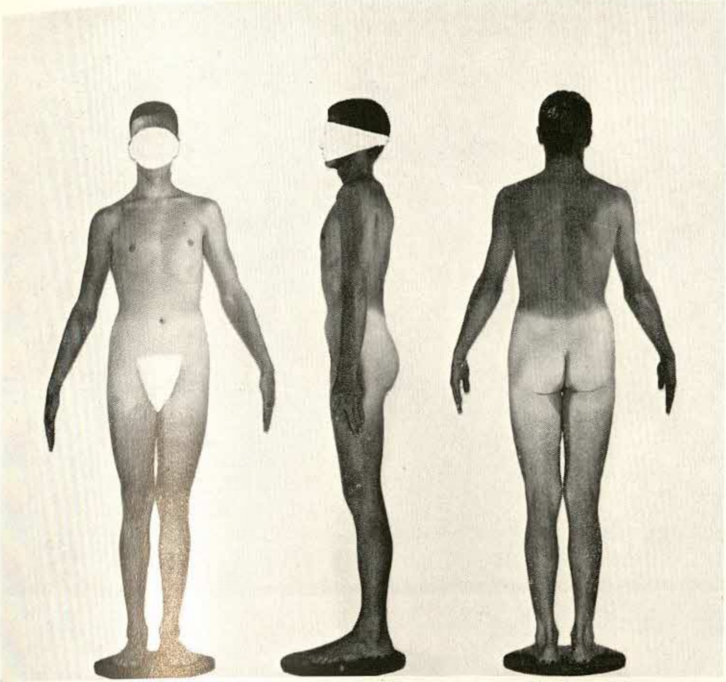
Weight for Age and Height

Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	178	186	190	196	201	206	209	210	210	210
74	170	178	183	189	193	198	201	201	201	201
73	164	171	176	181	185	190	193	193	193	193
72	157	164	168	173	177	182	185	185	185	185
71	151	157	162	167	170	175	177	178	178	178
70	145	151	155	160	163	168	170	170	170	170
69	139	145	149	153	157	161	163	164	164	164
68	133	139	142	147	150	154	156	157	157	157
67	127	132	136	140	143	147	149	150	150	150
66	121	126	130	134	137	140	142	143	143	143
65	116	121	124	128	131	134	136	136	136	136
64	110	115	118	122	125	128	130	130	130	130
63	105	110	113	116	119	122	124	124	124	124
62	100	105	108	111	113	117	118	118	118	118
61	96	100	103	105	108	111	113	113	113	113

Rarity 2. Incidence 22 per thousand. The commonest mesopene, and the only mesopene except the 4 3 5 that is common enough to be classed as rarity 2. Both the 4 3 3 and the 4 3 4 have nutrition curves indicating moderately long life, with perhaps a slight advantage in favor of the latter, who tends not to reach his full weight until the early fifties.

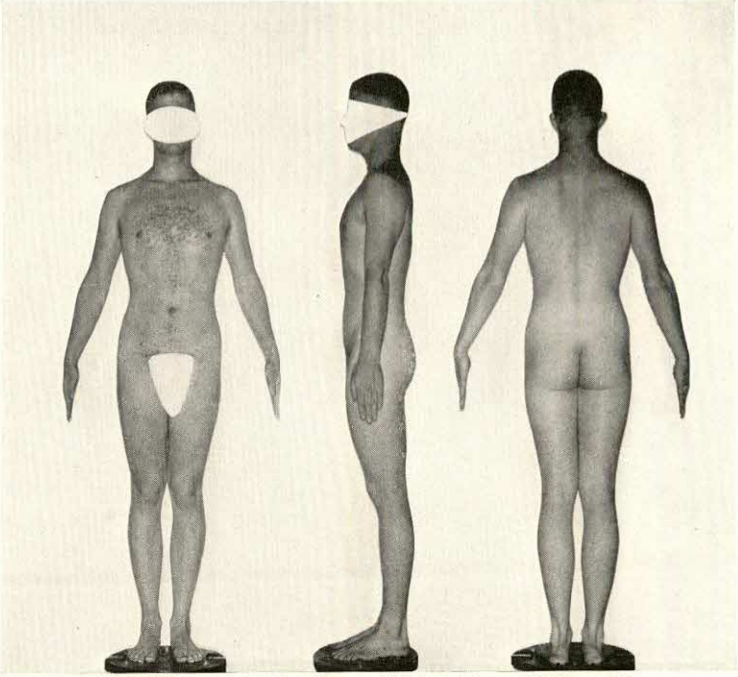
At five feet ten inches the average 4 3 3 gains about 30 pounds during adult life, and the average 4 3 4 about 25 pounds. But in considering the weight history of a man of one of these somatotypes we need to bear in mind that at a level of 4 or more in the first component more weight *lability* is likely to be encountered than at the lower levels of endomorphy. The nutrition curves show only averages for the somatotype. An individual 4 3 4 may depart in either direction from what thus appears to be his normal weight curve. He usually departs only temporarily, and will be too heavy or too light for only a short time, but he *may* remain more or less chronically heavier or lighter than the prediction, which of course has to be based on a knowledge of his earlier history.

This is equivalent to saying that a man sometimes changes very basic and fundamental habits in middle life. He may suddenly stop the practice of overeating and may for the rest of his life exercise self-restraint and discretion in eating, or vice versa. It is usually the people of midrange somatotype who accomplish such a seeming miracle. They are the ones who by their nature can see down all sides of the mountain at once. But of course the change takes place in their habits—not in their hereditary morphology, or somatotype.

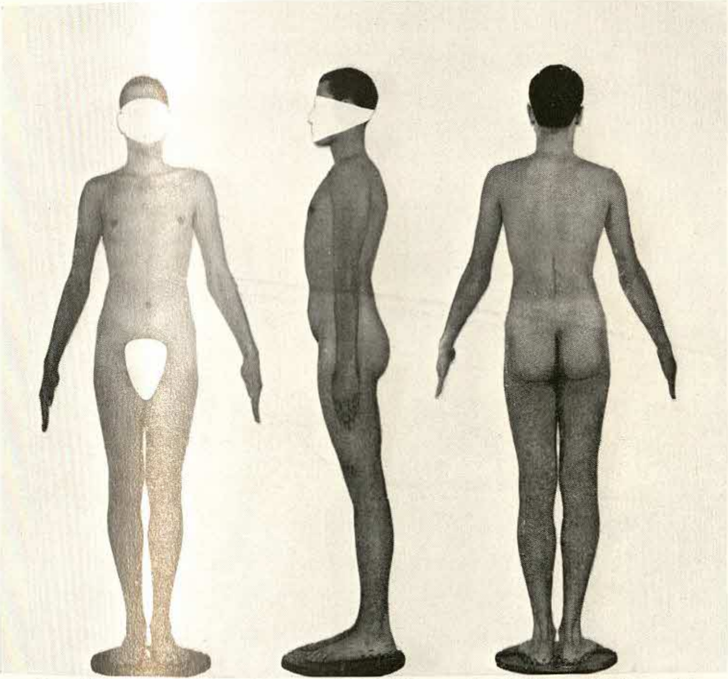


No. 686 *4 3 4* (*1*) 4 3 4–4 3 4 13.32 at 19
3½ 3 4, 4 3 4, 4 3 4, 4 3 4, 4 3 4

434

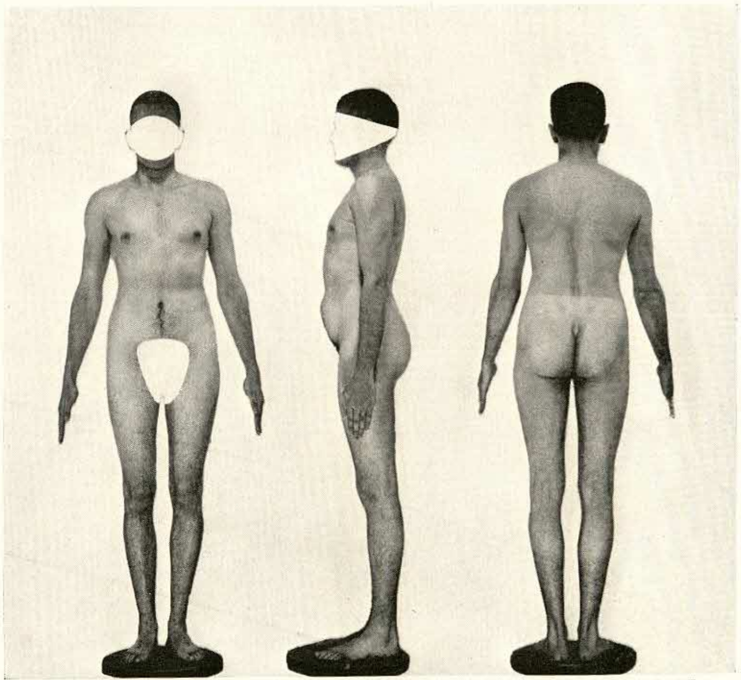


No. 687 *4 3 4* (*2*) 4 3 4–4 3 4 13.03 at 26
4 3 4, 4 3½ 3½, 4½ 3 3½, 4 3 4½, 4½ 3½ 4

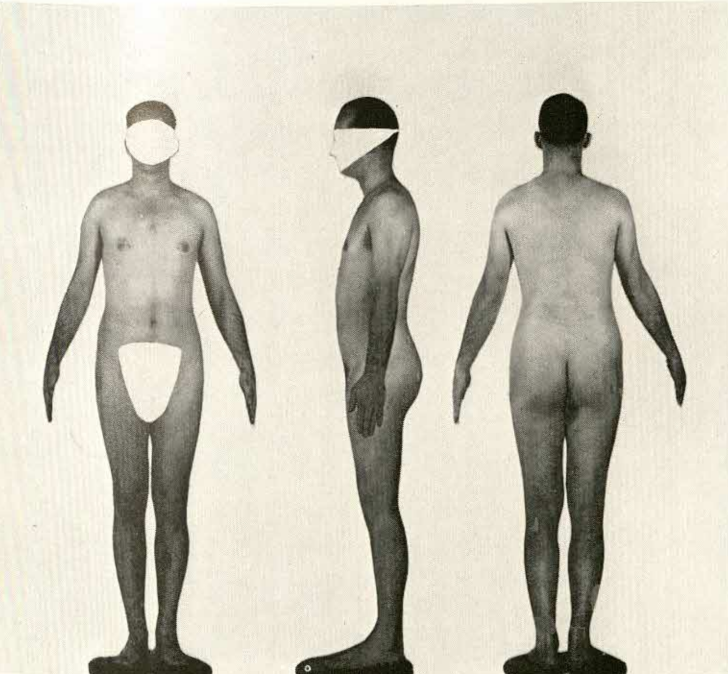


No. 688 *4 3 4* (*3*) 4 3 4–4 3 5 (4 3 4½) 13.41 at 19
4 3 4½, 4 3 4, 4 2½ 5, 4 3 4½, 4 3 4½

434

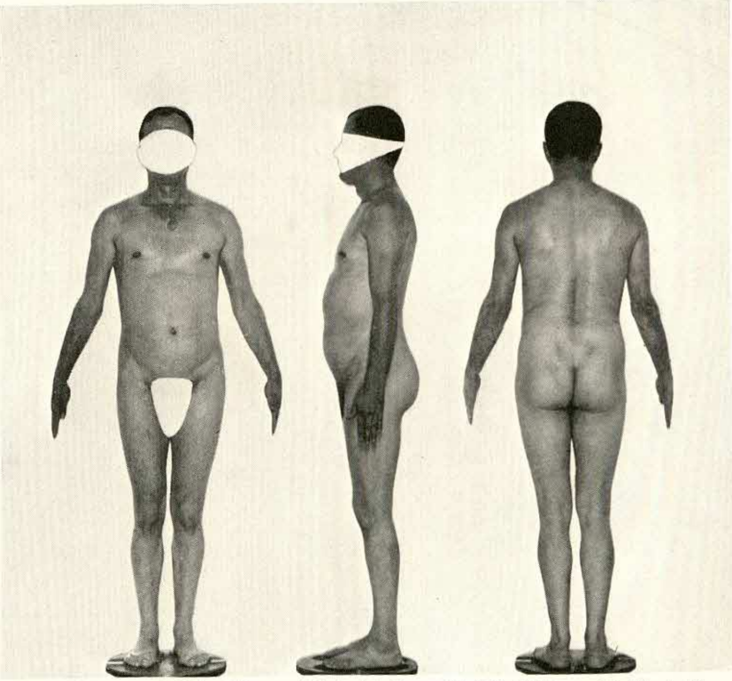


No. 689 *4 3 4* (*4*) 4 3 4–4 3 5 (4 3 4½) 13.12 at 27
4 3½ 4, 4 3½ 4½, 4 2½ 5, 4 3 3½, 3½ 3 5

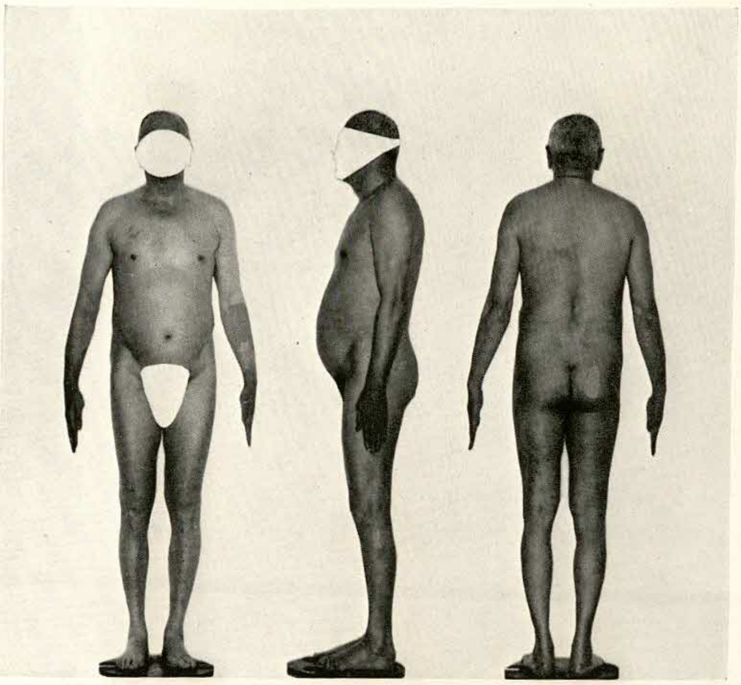


No. 690 *4 3 4* (*5*) 4 3 4–4 4 3 (4 3½ 3½) 12.81 at 28
4 3½ 3½, 4 3½ 3½, 4 3½ 3½, 4½ 3 3½, 4 3½ 4

434

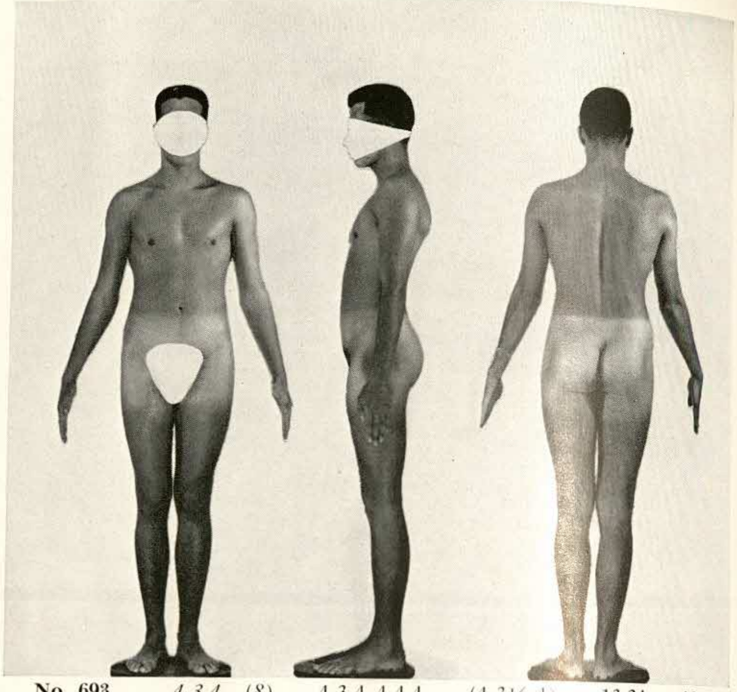


No. 691 *4 3 4* (*6*) 4 3 4–4 4 3 (4 3½ 3½) 12.49 at 43
4 4 3, 3½ 4 3½, 4 3½ 3, 4 3½ 3½, 3½ 3½ 3½

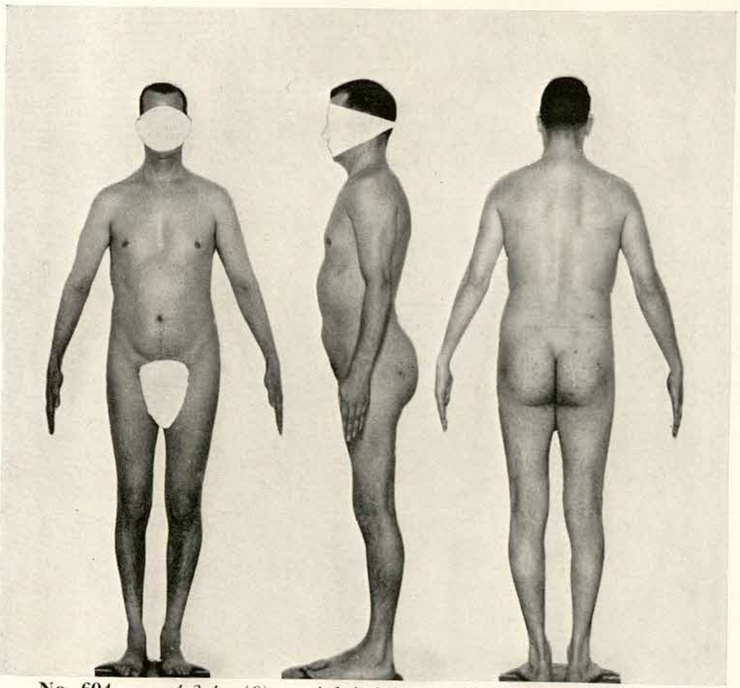


No. 692 *4 3 4* (*7*) 4 3 4–4 4 3 (4 3½ 3½) 12.38 at 57
4 3½ 3, 4 3½ 3½, 4 3½ 3½, 4 3½ 3½, 3½ 3 4

434

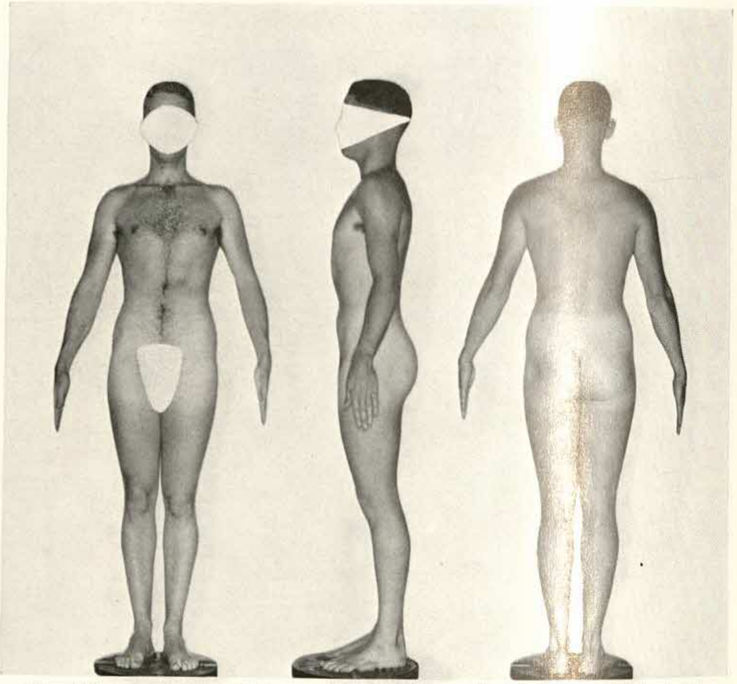


No. 693 *4 3 4* (*8*) 4 3 4–4 4 4 (4 3½ 4) 13.24 at 19
4 3½ 4, 4 3½ 4, 4 3½ 4, 4 3½ 3½, 4 3½ 4

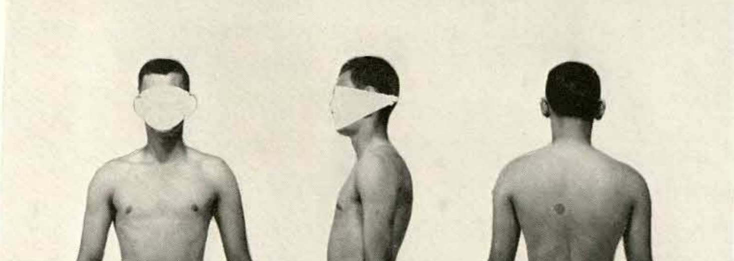


No. 694 *4 3 4* (*9*) 4 3 4–4 4 4 (4 3½ 4) 12.65 at 39
4 3½ 4, 3½ 4 3½, 4 3½ 4½, 4 4 3½, 3½ 3½ 4½

434

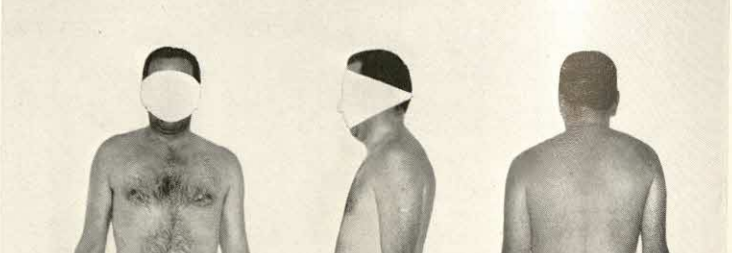


No. 695 *4 3 4* (*10*) 4 3 4–5 3 4 (4½ 3 4) 12.99 at 22
4 3 4½, 4½ 3½ 3½, 4 3 4, 4½ 3 4, 5 3½ 3½



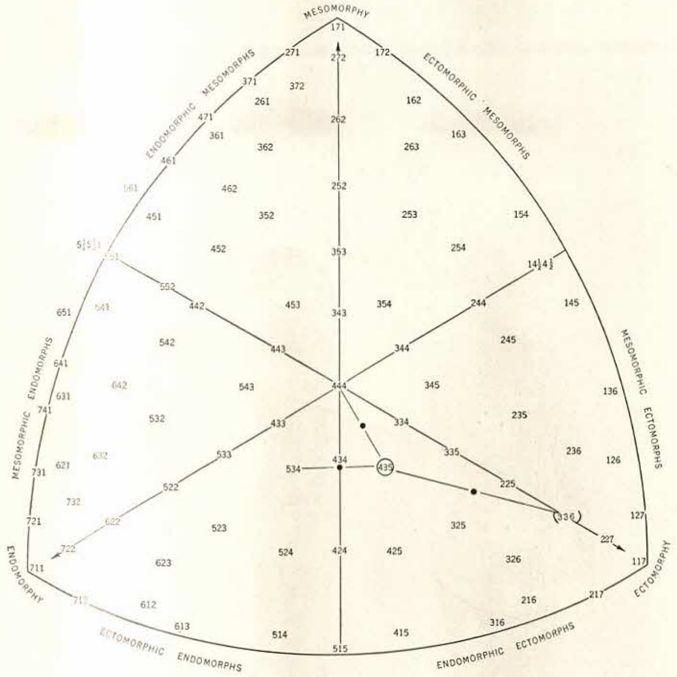
No. 696 *4 3 4* (*11*) 4 3 4–5 4 3 (4½ 3½ 3½) 13.02 at 19
4 3½ 4, 4½ 3½ 3½, 4½ 3 4, 4 3½ 3½, 5 3½ 3

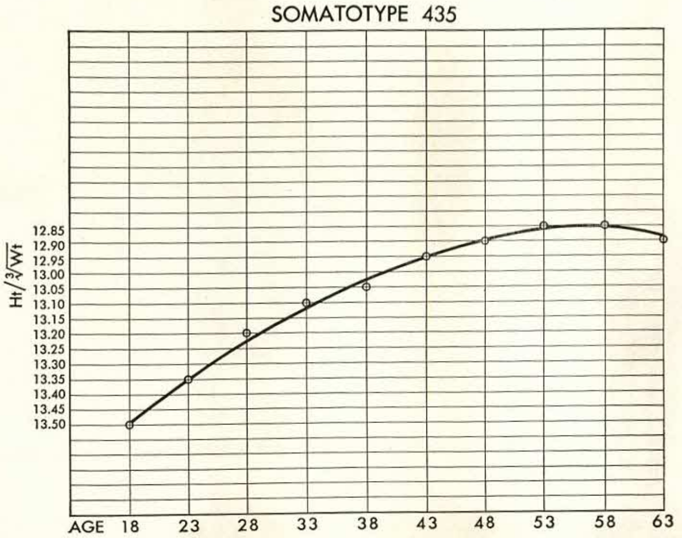
434



No. 697 *4 3 4* (*12*) 4 3 4–5 4 3 (4½ 3½ 3½) 12.30 at 38
5 3½ 3, 4½ 3 3½, 5 3½ 3, 4½ 3 3½, 4 3½ 3½

Somatotype 4 3 5 *(Endomorphic ectomorphy, 12-level.) White-tails. The common white-tailed deer. More ectomorphic and more agile than the pronghorns of the West, and this is one lovely creature not yet pushed close to extermination by the cancer of human overpopulation. Nos. 700–711.*





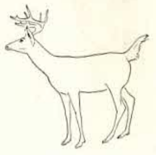
Weight for Age and Height

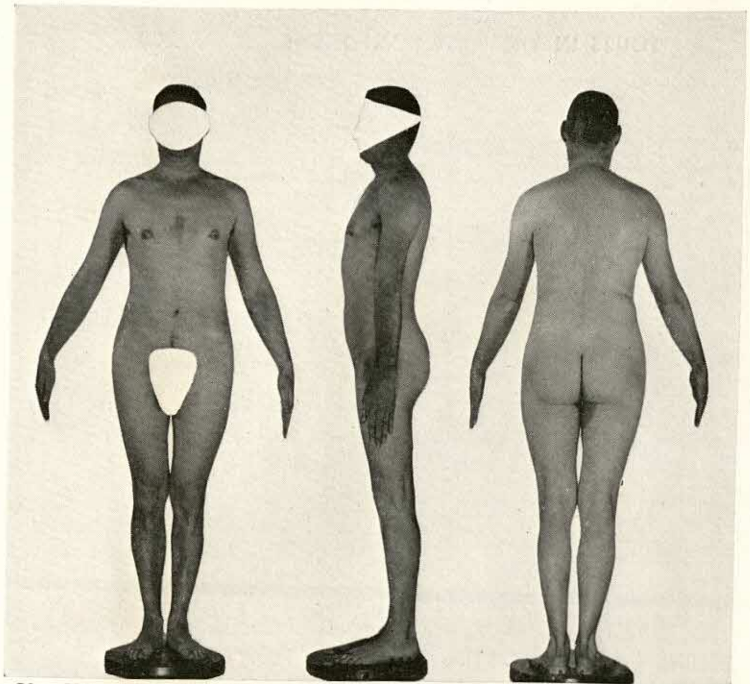
Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	173	180	183	188	191	196	199	199	198	197
74	165	170	175	179	182	186	188	190	189	189
73	159	164	168	172	175	179	180	183	182	181
72	153	158	162	166	169	171	173	176	175	174
71	147	152	156	159	162	165	167	169	168	168
70	140	145	148	152	155	157	159	162	160	160
69	134	139	142	146	148	151	153	155	154	153
68	128	133	136	139	142	144	146	148	147	147
67	122	127	130	133	136	137	139	142	141	140
66	117	121	124	127	129	131	133	135	134	134
65	111	116	119	121	124	126	127	129	128	128
64	106	110	113	116	118	120	121	123	122	122
63	101	105	108	110	113	114	116	118	117	116
62	97	100	103	105	108	109	110	112	111	111
61	92	96	98	100	102	104	105	107	106	105

Rarity 2. Incidence 14 per thousand. Sometimes known as the "bay window" somatotype. The 4 3 5 is usually tall, with what may (in middle age) seem absurdly long, inadequate legs, and he frequently grows a paunch. Since the first component predominates over the second, the abdominal segment tends ultimately to predominate over the chest, and if dietary inhibition is low there may blossom in time a truly fine bay window. Perhaps a deer would grow a bay window too, if he could live to be 60 and walked on his hind legs. In general the bay window is characteristic of the 4-level in the first component, for when we reach predominant endomorphy the magnificent pneumatic expansion becomes general and is not confined to a local protuberance.

For long life the 4 3 5 seems just about to hold up to the general average, reaching his full weight late but beginning rather promptly to drop some of it. In our contacts with this somatotype, usually in clinical work, there has often been a feeling that here is a problem of overloading. For so much ectomorphic frailty, with so little mesomorphic support, the 4 in endomorphy creates a burden after a while. In youth, however, the 4 3 5 is frequently handsome, graceful and beautifully relaxed. Probably many a maiden has married a 4 3 5 thinking she had captured a stalwart knight on a white horse. The bay window comes as a delayed surprise. It may be a good thing, on the whole, that courses in somatotyping are not yet generally taught in the women's colleges.

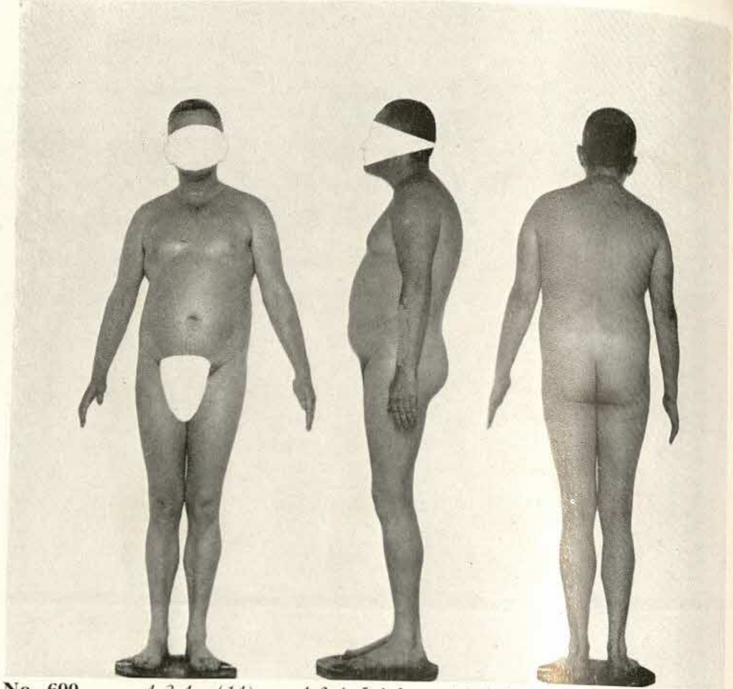
This is a somatotype that usually can swim well because of excellent buoyancy in the water, an endomorphic gift, but the 4 3 5 does well to eschew most other forms of athletics.



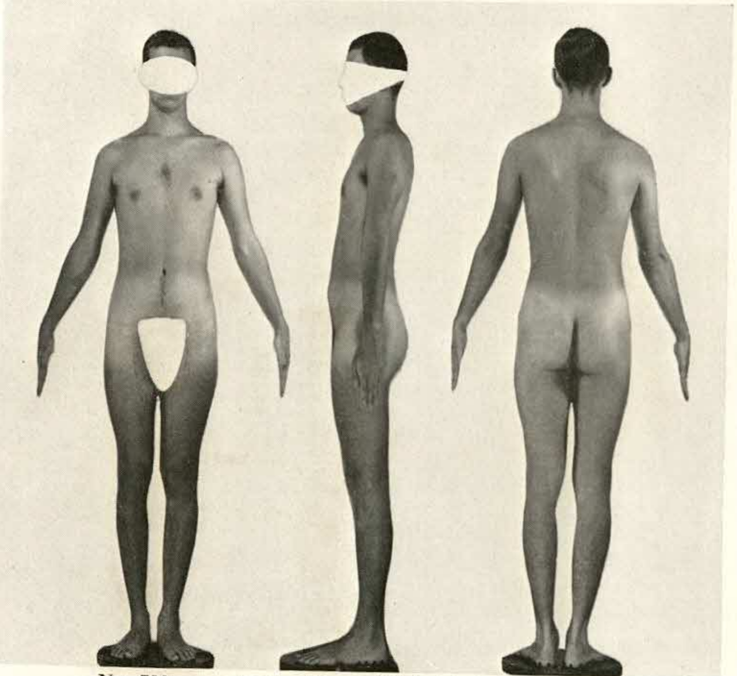


No. 698 *4 3 4* (*13*) 4 3 4–5 4 3 (4½ 3½ 3½) 12.30 at 39
4½ 3½ 3, 4½ 3½ 3½, 4½ 3½ 3½, 4½ 3½ 3½, 4 3 4½

434

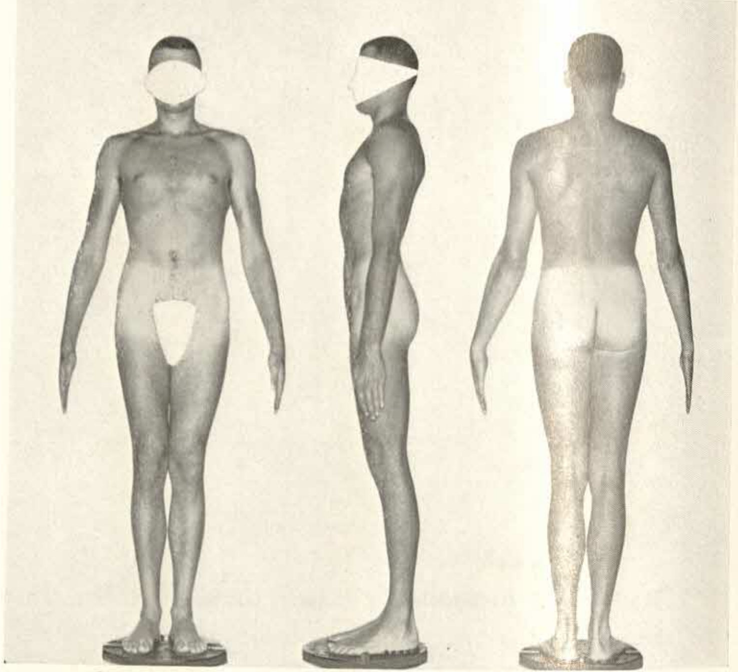


No. 699 *4 3 4* (*14*) 4 3 4–5 4 3 (4½ 3½ 3½) 12.15 at 55
4½ 3½ 3½, 4½ 4 3, 4½ 3½ 3, 4½ 3½ 3, 4½ 3 4

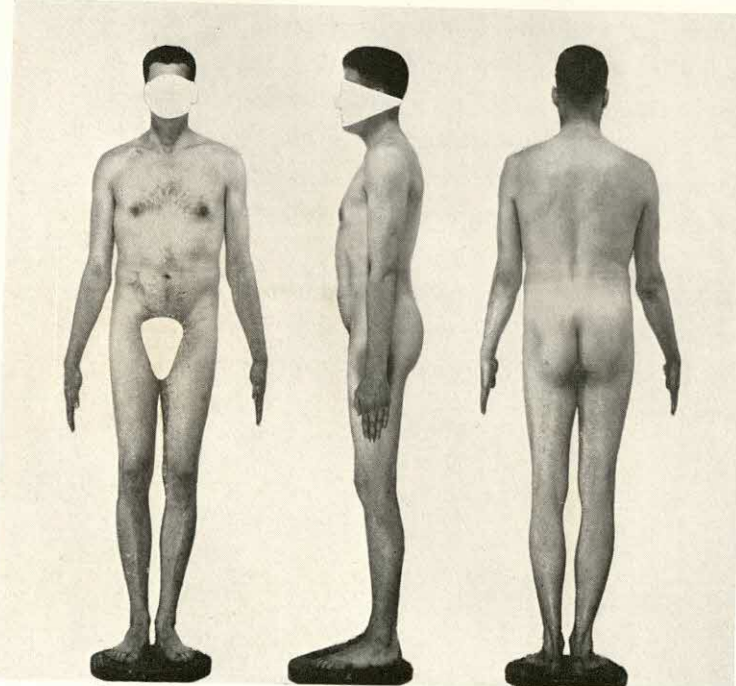


No. 700 *4 3 5* (*1*) 4 3 5–4 3 5 13.53 at 18
3½ 3 5½, 4 3 5, 4 3 5, 3½ 3 5½, 4 3 5

435

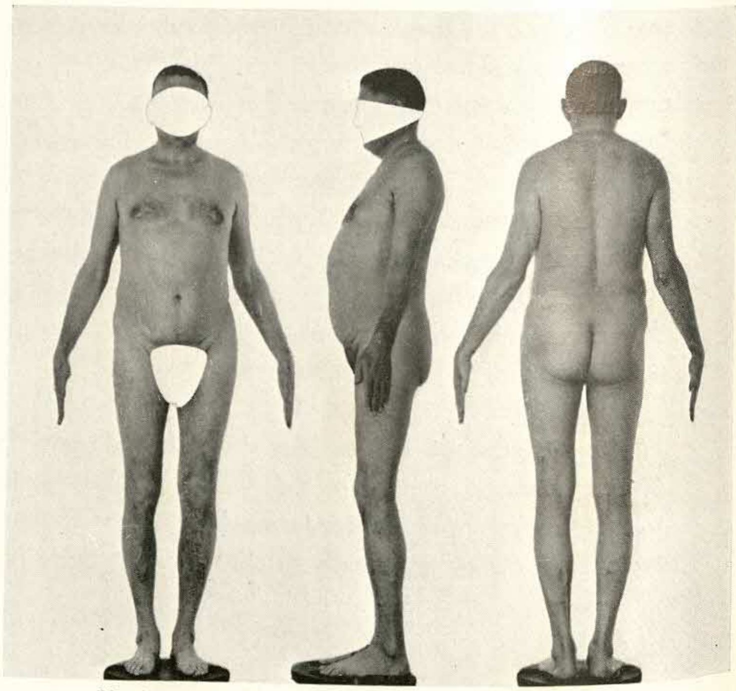


No. 701 *4 3 5* (*2*) 4 3 5–4 3 5 13.31 at 24
4 3 4½, 4 3½ 4½, 3½ 3½ 5, 4 3 5, 4 3 5

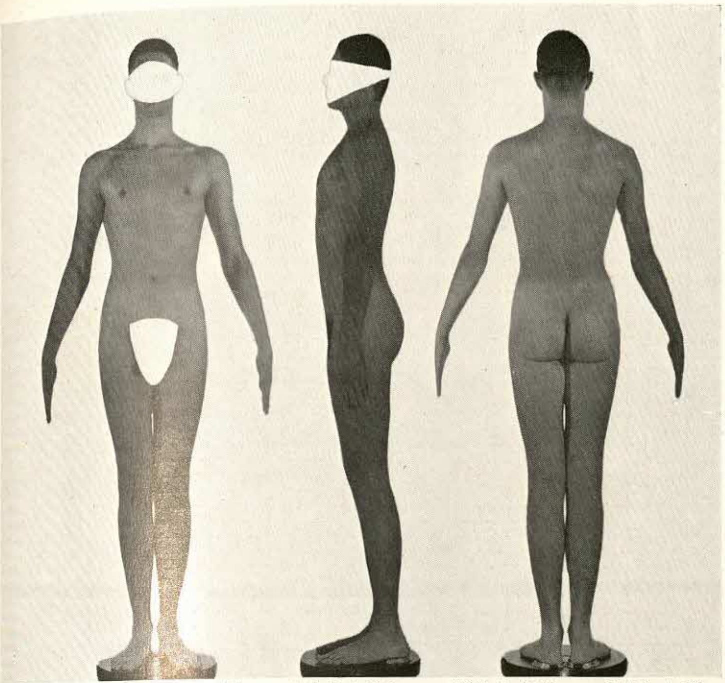


No. 702 *4 3 5* (*3*) 4 3 5–4 3 5 13.07 at 34
4 3½ 4½, 4 3 5, 4 3 5, 4 3½ 4½, 3½ 3 5

435

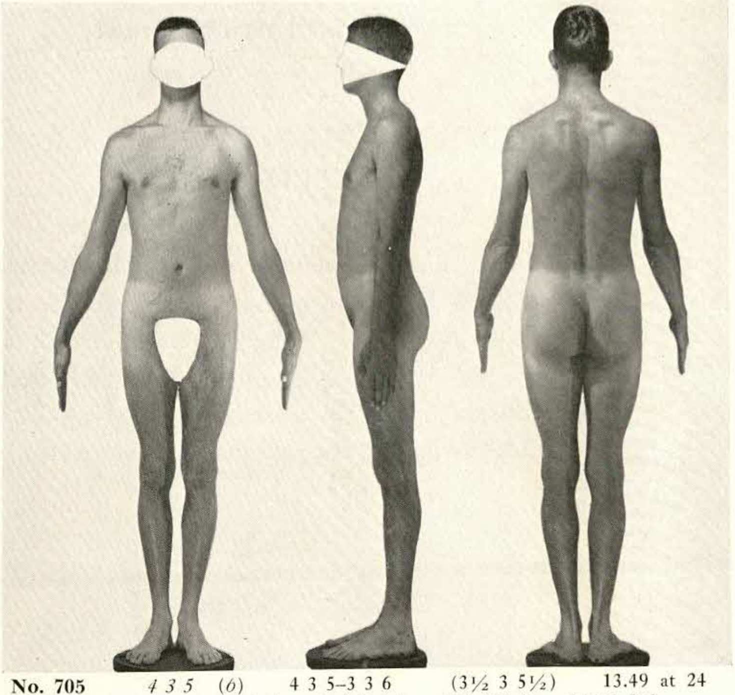


No. 703 *4 3 5* (*4*) 4 3 5–4 3 5 12.90 at 62
4 3 4, 4 3 5, 4 2½ 5, 4 3 4½, 3 2½ 5½

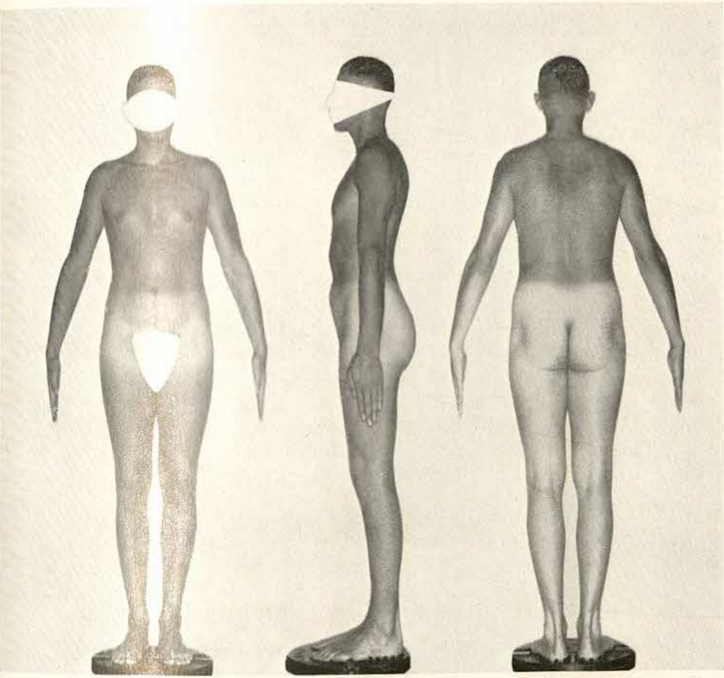


No. 704 *4 3 5* *(5)* 4 3 5–3 3 6 (3½ 3 5½) 13.65 at 18
3½ 3½ 5½, 3½ 3½ 5, 3½ 3½ 5½, 3½ 3½ 5½, 4 3 5

435

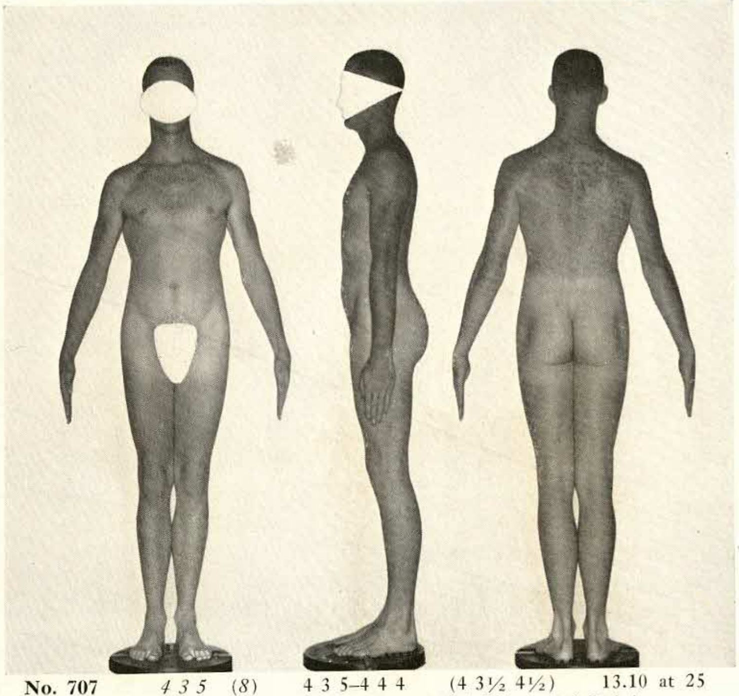


No. 705 *4 3 5* *(6)* 4 3 5–3 3 6 (3½ 3 5½) 13.49 at 24
3 3½ 5½, 3½ 3 5½, 3½ 3½ 5, 3½ 3½ 5, 3½ 3 5½

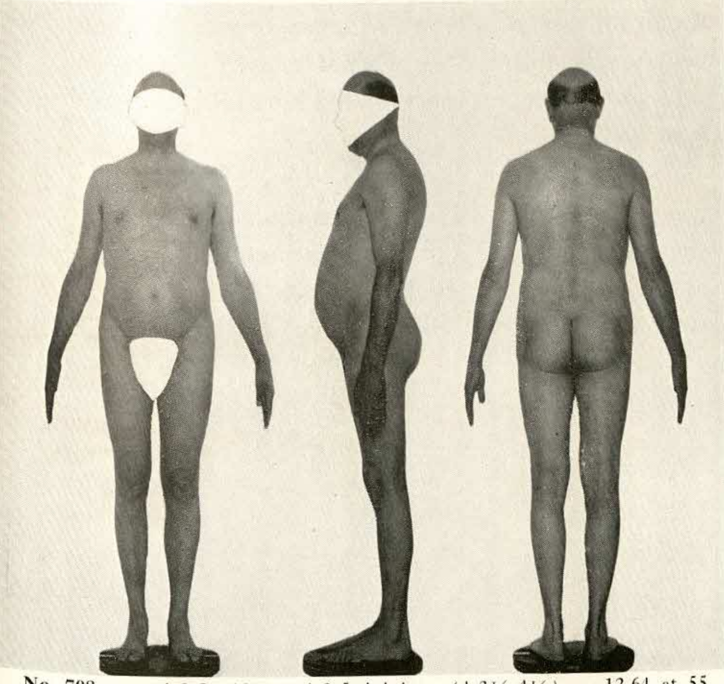


No. 706 *4 3 5* *(7)* 4 3 5–4 4 4 (4 3½ 4½) 13.17 at 23
3½ 3½ 4½, 4 3½ 4, 4 3½ 4½, 4 3 5, 4 3½ 4½

435

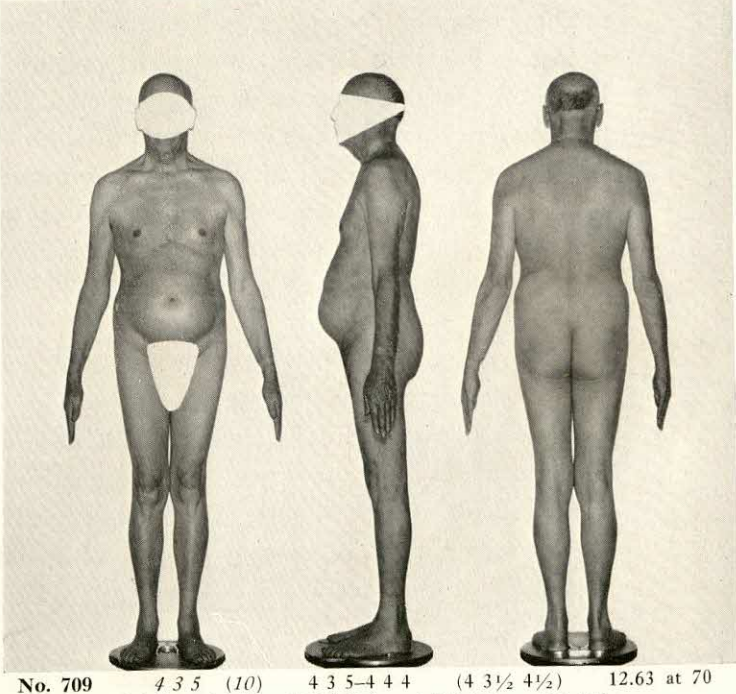


No. 707 *4 3 5* *(8)* 4 3 5–4 4 4 (4 3½ 4½) 13.10 at 25
3½ 4 4½, 4 4 4, 4 3½ 4½, 4 3½ 4½, 4½ 3½ 4



No. 708 *4 3 5* *(9)* 4 3 5–4 4 4 (4 3½ 4½) 12.64 at 55
4 3½ 4½, 4 3½ 4½, 4 3 5, 4 4 4, 4 3 5

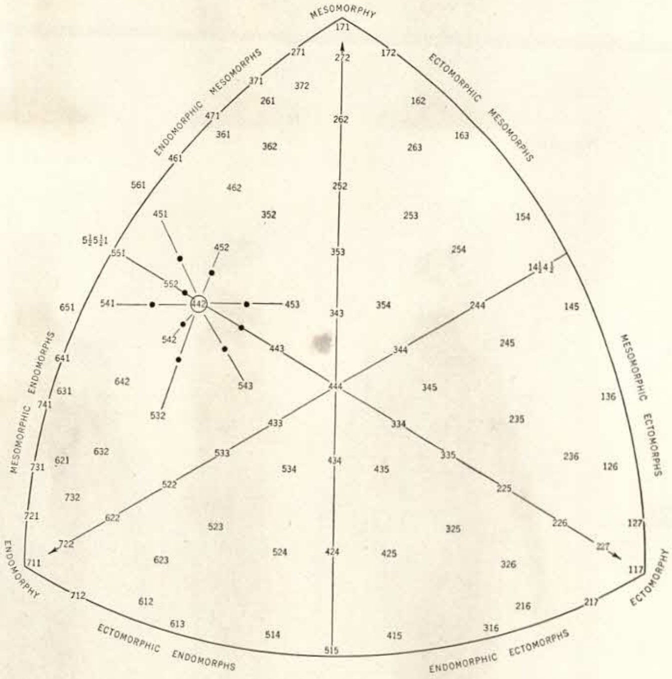
435

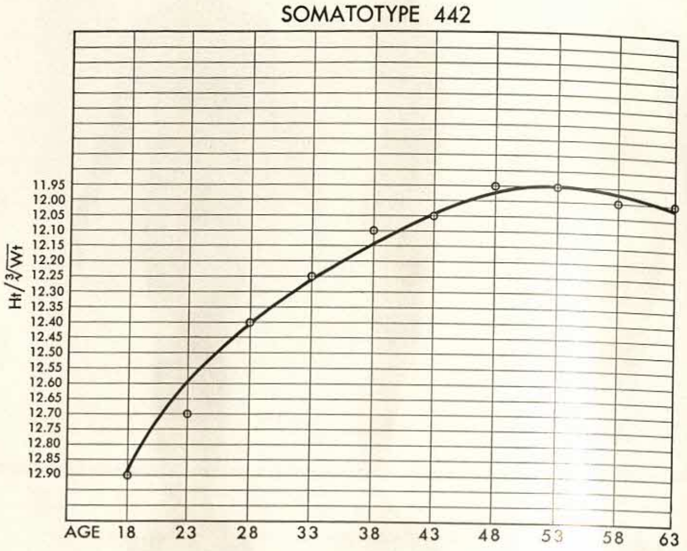


No. 709 *4 3 5* *(10)* 4 3 5–4 4 4 (4 3½ 4½) 12.63 at 70
4 4 4, 4 3 5, 4 3½ 4½, 4 3½ 4½, 4 3 4½

25. THE FOUR-FOUR DOGS, OR PPJ DOGS

Somatotype 4 4 2 *(Balanced endomorph-mesomorphs, 10-level.) The beagle, who is a rabbit hound but is also much more and is one of the delightful companions of children. Short legged, viscerotonic, he is a PPJ and will grow amazingly fat on remarkably slight provocation. "Waddles" is one of his favorite names. Nos. 712–744.*





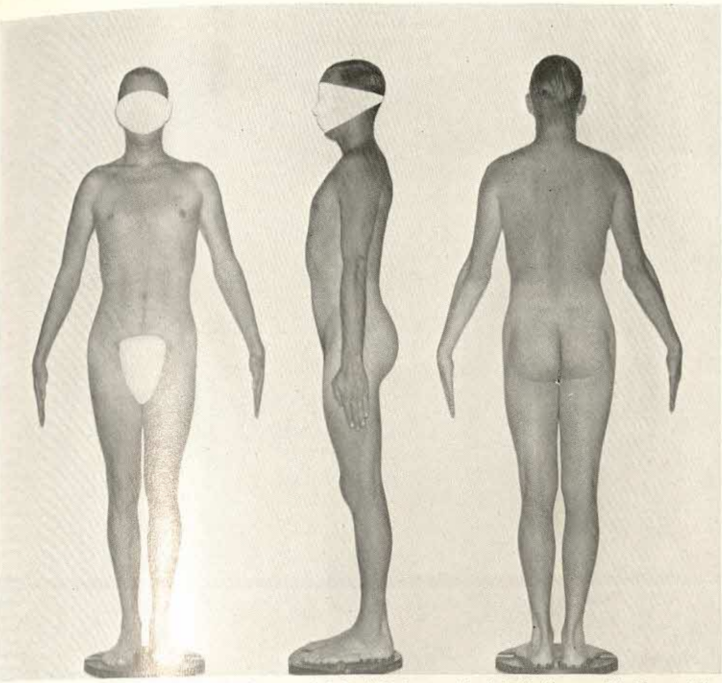
Weight for Age and Height

Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	195	206	219	230	236	242	247	247	245	245
74	188	198	211	221	227	232	237	237	235	234
73	180	190	202	212	218	222	227	227	226	226
72	173	183	194	204	210	214	219	219	218	218
71	166	174	186	195	201	205	209	209	208	207
70	159	167	178	187	193	196	201	201	200	200
69	153	161	171	179	185	188	192	192	192	192
68	146	154	164	171	177	180	184	184	183	182
67	139	147	156	164	169	172	176	176	175	175
66	133	140	149	156	161	165	168	168	167	166
65	127	134	142	149	154	157	161	161	160	160
64	121	128	136	142	147	150	153	153	153	153
63	116	122	130	136	140	143	146	146	145	144
62	110	116	124	130	134	136	139	139	138	138
61	105	111	118	123	127	130	133	133	132	132

Rarity 2. Incidence 25 per thousand. The balance of 4 in both of the first two components seems to produce most dramatically the phenomenon that has come to be called the PPJ, or pyknic practical joke. Pyknic is a term meaning compact. The pyknic individual is a fat man, or woman—often both fat and strong. The practical joke lies in the fact that many of those who in adult life are pyknic were slim or lissome to inexperienced observers when they were younger. Many a romantic maiden or youth has pinned a future hope on a 4 4 2 only to discover most realistically, within a few years, the meaning of the term pyknic practical joke.

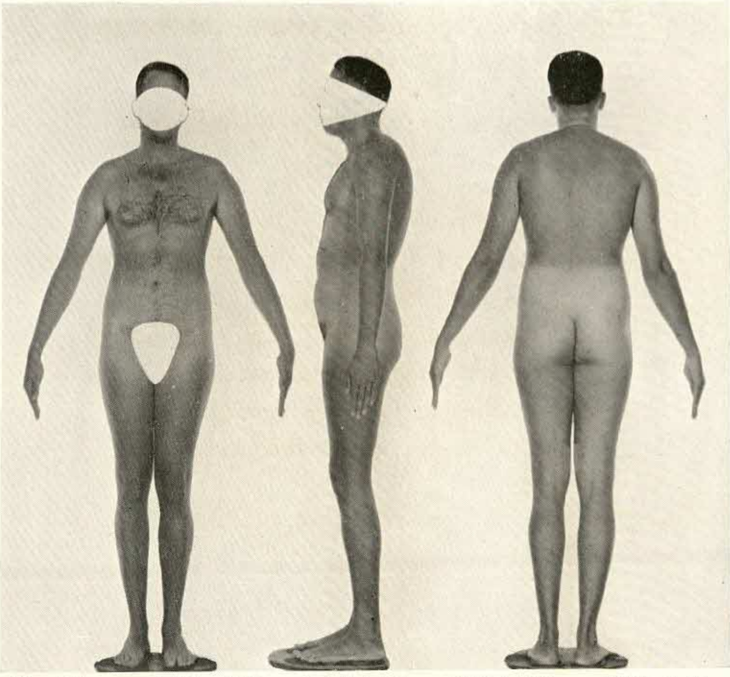
An *average* 4 4 2 adds only about 40 pounds, at average stature, during the quarter century between his early twenties and his late forties. But frequently men of this somatotype—and women even more frequently—show a remarkable weight lability. These labile ones may temporarily put on twice that amount of additional weight. Women are prone to do something like this during the reproductive period. It is not very uncommon for a young 4 4 2 woman, who at the time of marriage may have normally weighed 99 pounds at a stature of five feet, to weigh 140 pounds after a pregnancy or two. You hear something like this: "Why, when I married Marjorie I could make my fingers meet around her waist, and now look at her."

The 4 4 2 often gains his or her maximal weight *suddenly*, perhaps to hold it at that point until old age, perhaps to shift frequently back and forth. This is a *weight labile* somatotype, and therefore sometimes a difficult one to gauge.

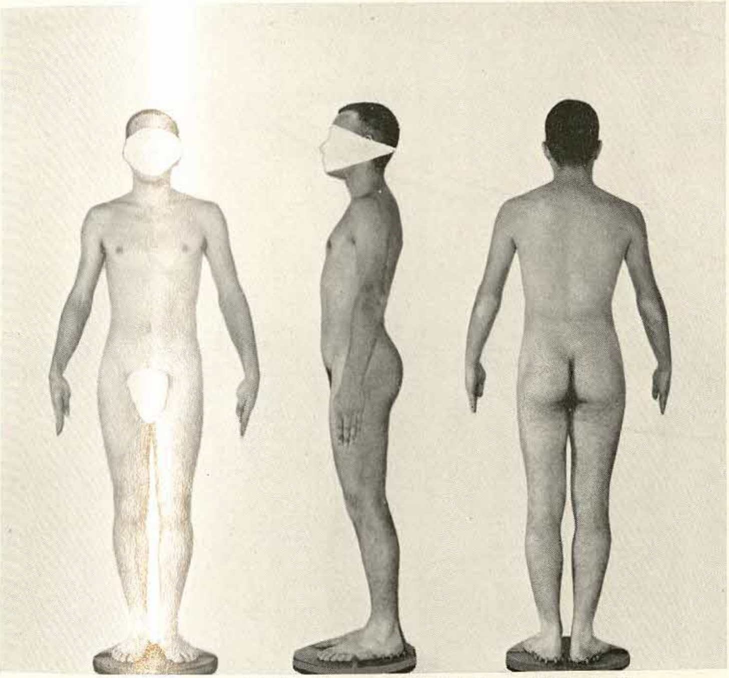


No. 710 *4 3 5* (*11*) 4 3 5–5 3 4 (4½ 3 4½) 13.20 at 20
5 3 4, 4½ 3 4½, 4 3 5, 4½ 3 4½, 4½ 3 4½

435

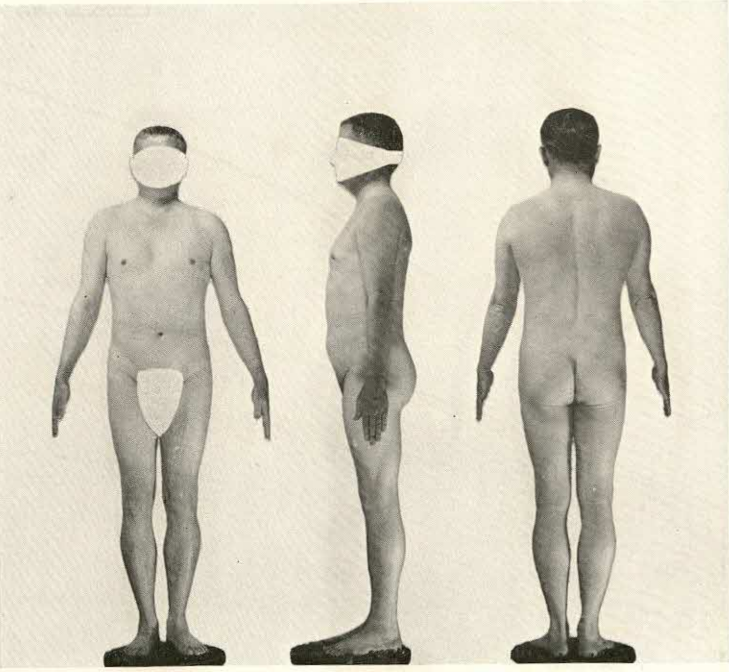


No. 711 *4 3 5* (*12*) 4 3 5–5 3 4 (4½ 3 4½) 12.75 at 33
4½ 3 4½, 4½ 3½ 4, 4½ 3 4½, 5 3 4, 4½ 3 4½

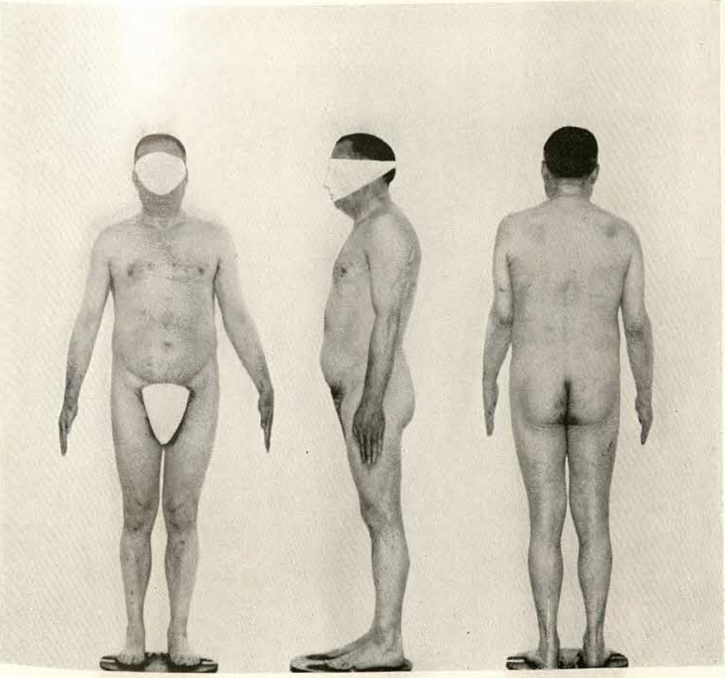


No. 712 *4 4 2* (*1*) 4 4 2–4 4 2 12.91 at 18
4 4 2, 4 4 2½, 4 4 2½, 4 4 2, 4 4½ 2

442

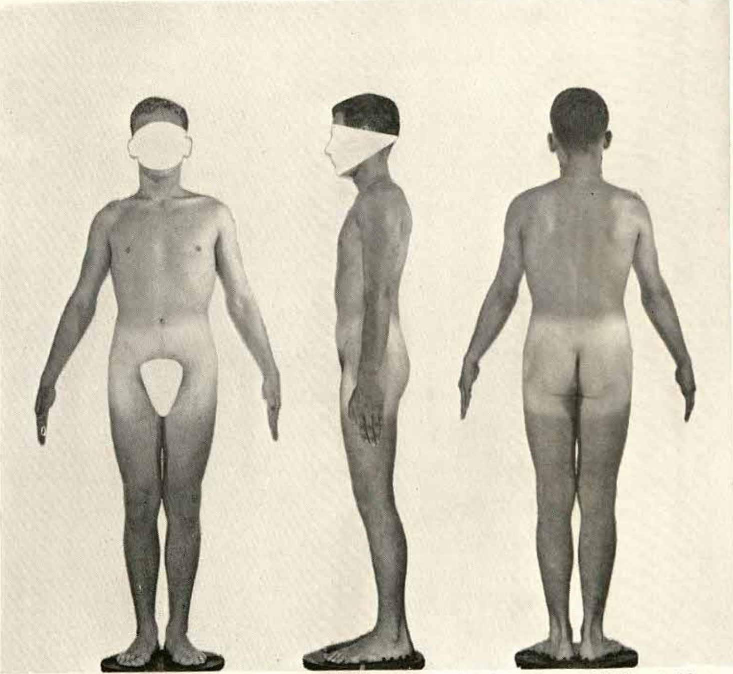


No. 713 *4 4 2* (*2*) 4 4 2–4 4 2 11.97 at 49
4 5 1½, 4 4 2, 4 4 2, 4 4 2, 3½ 4½ 2½



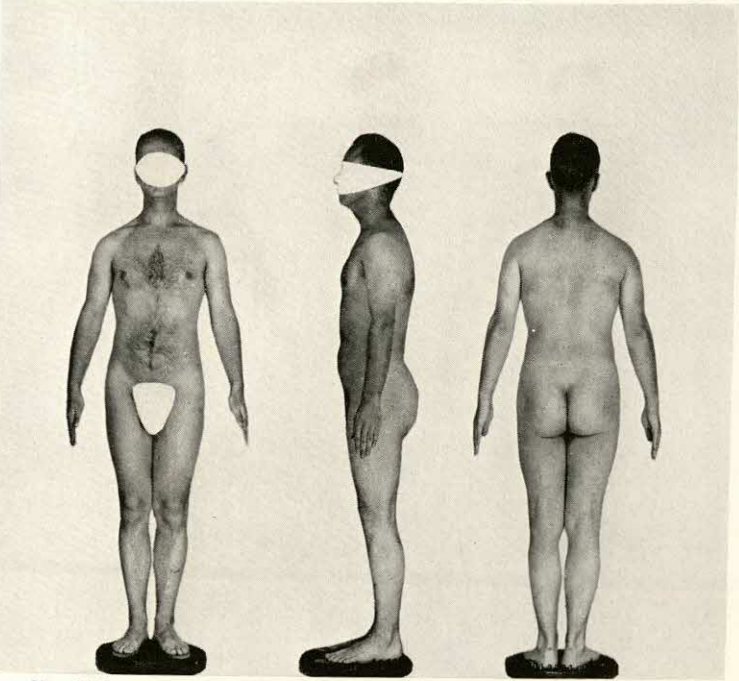
No. 714 *4 4 2* (*3*) 4 4 2–4 4 2 11.98 at 61
4½ 4 1½, 4 4 2, 4½ 3½ 2, 4 4 2, 3½ 4½ 2

442

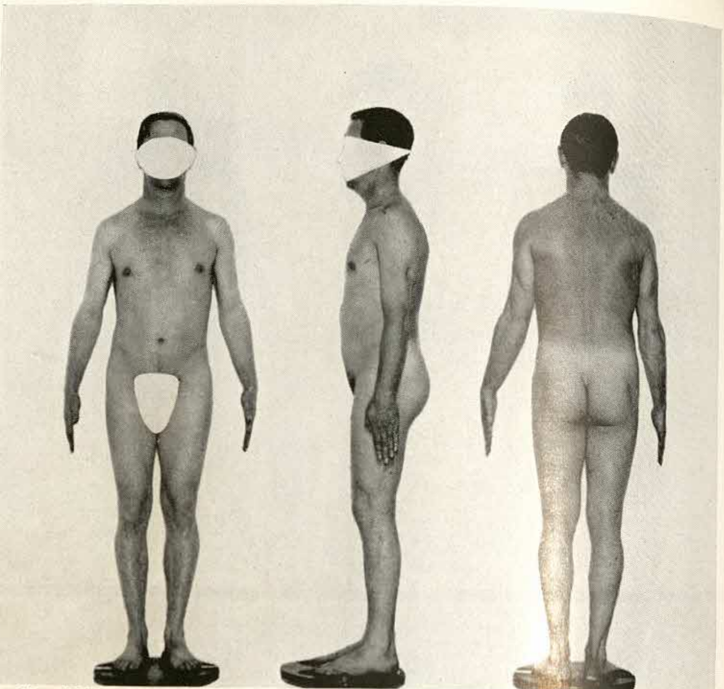


No. 715 *4 4 2* (*4*) 4 4 2–4 4 3 (4 4 2½) 12.99 at 18
4 4 2½, 4 4 2, 4 4½ 2½, 4 4 2½, 4 4 2½

442

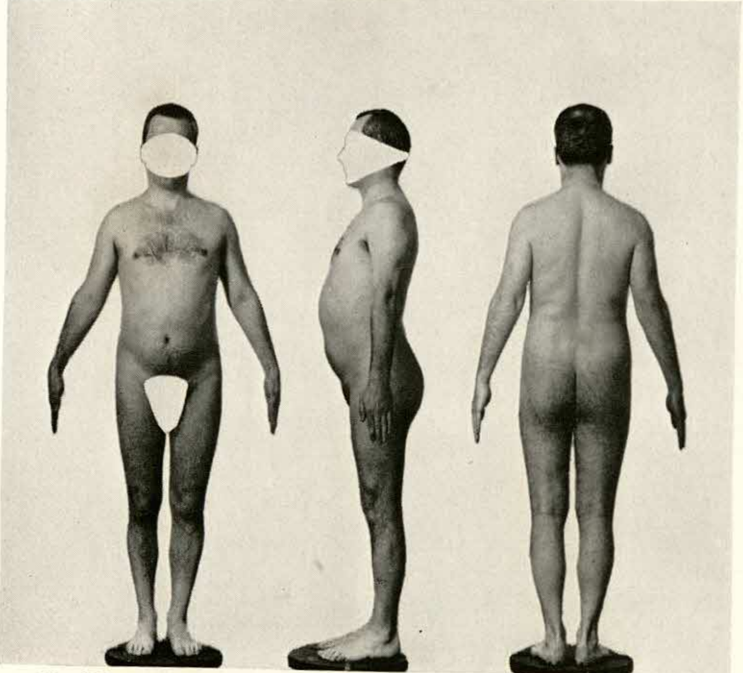


No. 716 *4 4 2* (*5*) 4 4 2–4 4 3 (4 4 2½) 12.52 at 29
3 3 4½, 4 4½ 1½, 4 4 2, 4 4½ 2, 4½ 4 2

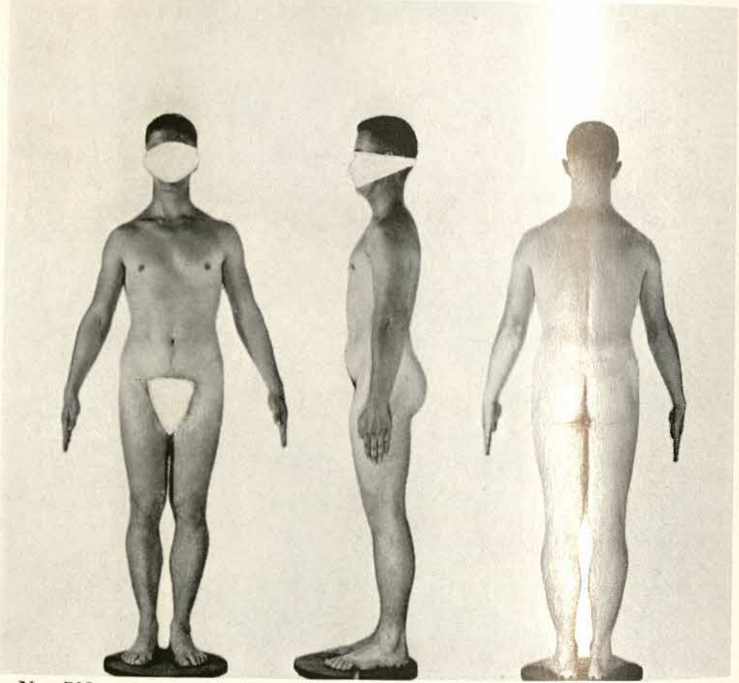


No. 717 *4 4 2* (*6*) 4 4 2–4 4 3 (4 4 2½) 12.35 at 34
4 4 2½, 3½ 4 2½, 4 4½ 2, 4 4 2½, 3½ 3½ 3

442

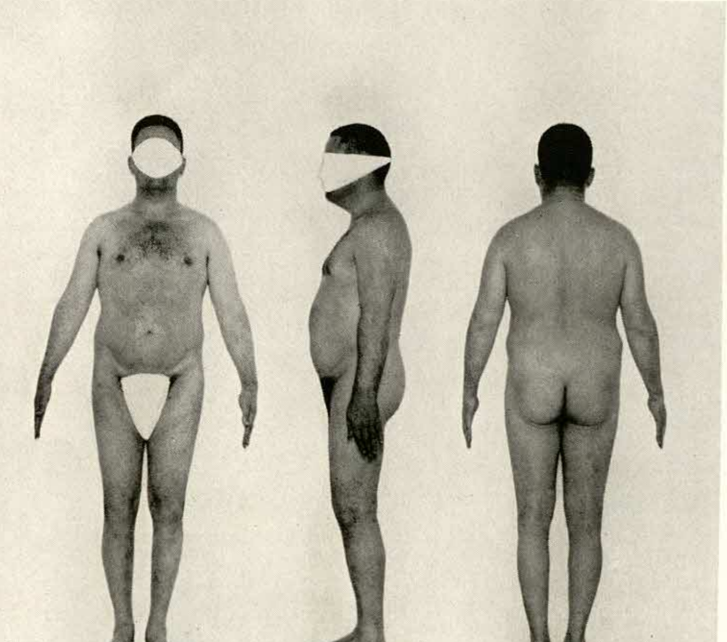


No. 718 *4 4 2* (*7*) 4 4 2–4 4 3 (4 4 2½) 12.14 at 44
4 4½ 2½, 4 3½ 2½, 4 3½ 2½, 4 4 2½, 4 3½ 2½

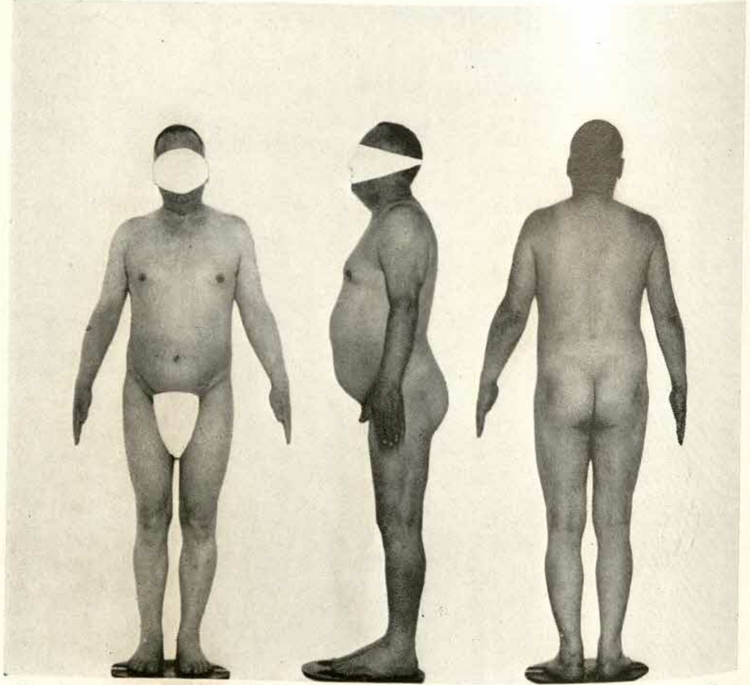


No. 719 *4 4 2* (*8*) 4 4 2–4 5 1 (4 4½ 1½) 12.72 at 19
4 3½ 2½, 4 4½ 1½, 4 4½ 1½, 4 4½ 1½, 4 4½ 1½

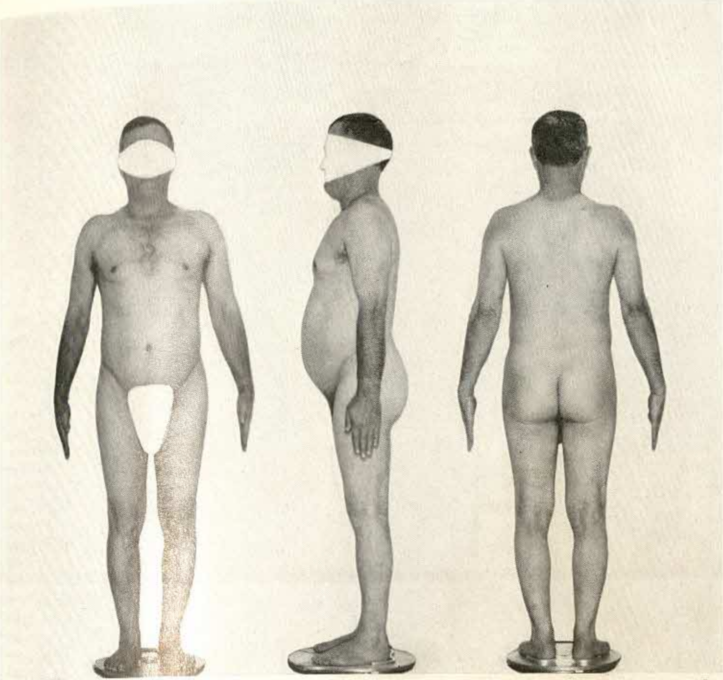
442



No. 720 *4 4 2* (*9*) 4 4 2–4 5 1 (4 4½ 1½) 11.72 at 45
4 4½ 1½, 4 4½ 1½, 4½ 4½ 1, 4½ 4 1½, 3½ 4 2½

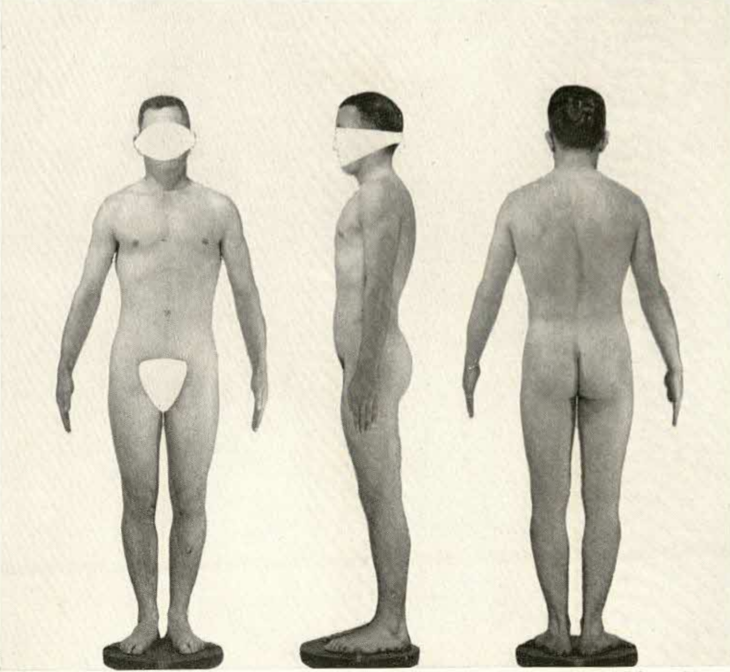


No. 721 *4 4 2* (*10*) 4 4 2–4 5 1 (4 4½ 1½) 11.67 at 55
4 4½ 1½, 4 4 2, 4 4½ 1½, 4½ 4 1½, 3½ 4½ 2

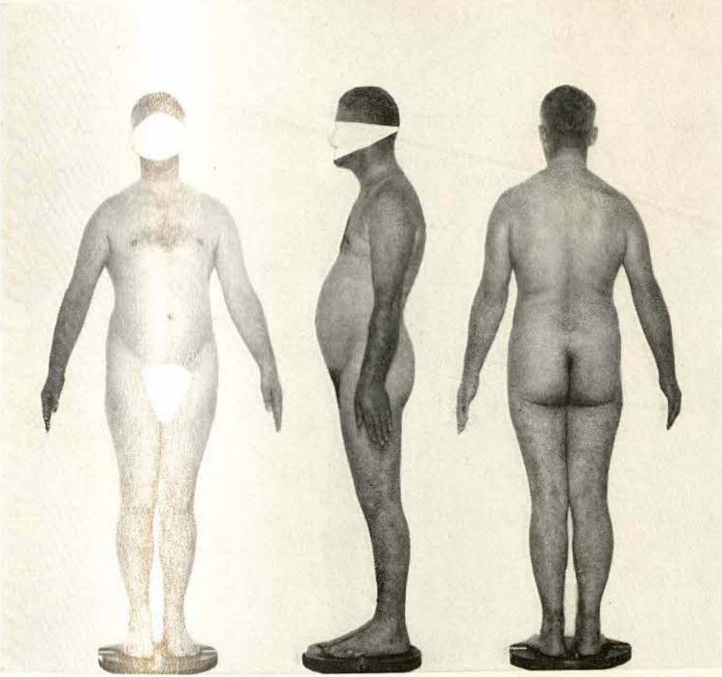


No. 722 *4 4 2* (*11*) 4 4 2–4 5 1 (4 4½ 1½) 11.85 at 65
4 4½ 1½, 4 4½ 1½, 4 4½ 1½, 4 4½ 1½, 3½ 4½ 2

442

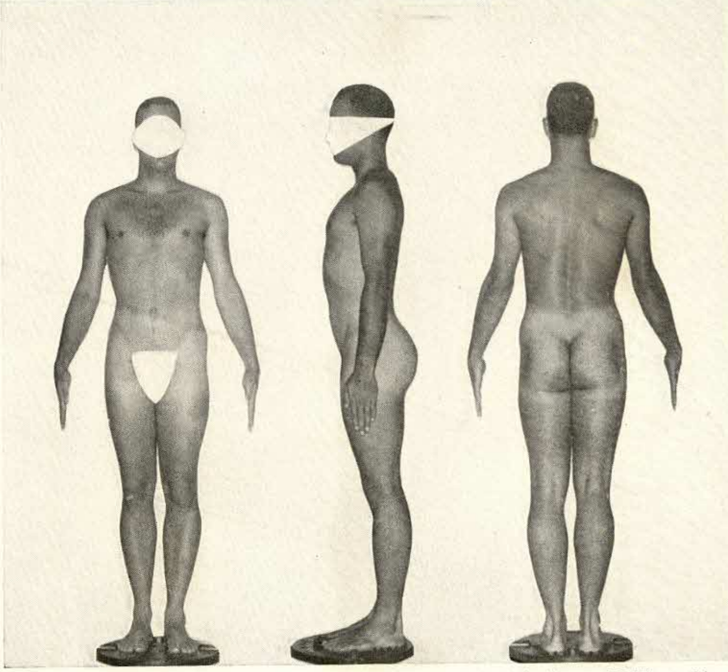


No. 723 *4 4 2* (*12*) 4 4 2–4 5 2 (4 4½ 2) 12.75 at 20
4 4½ 2½, 3½ 5 1½, 4 4½ 2, 3½ 5 2, 4 4½ 2

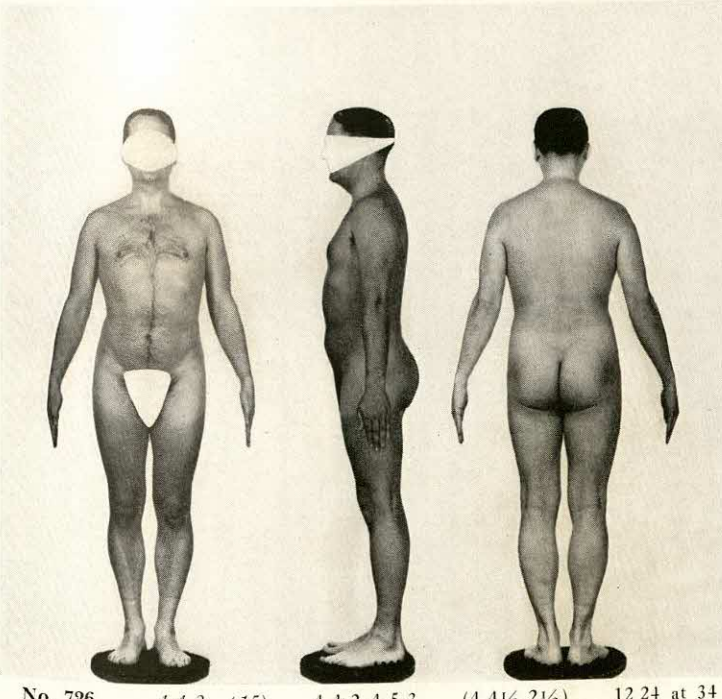


No. 724 *4 4 2* (*13*) 4 4 2–4 5 2 (4 4½ 2) 11.82 at 49
4 4½ 2½, 3½ 4½ 2, 4 5 1½, 4 4½ 2, 4 4½ 1½

442

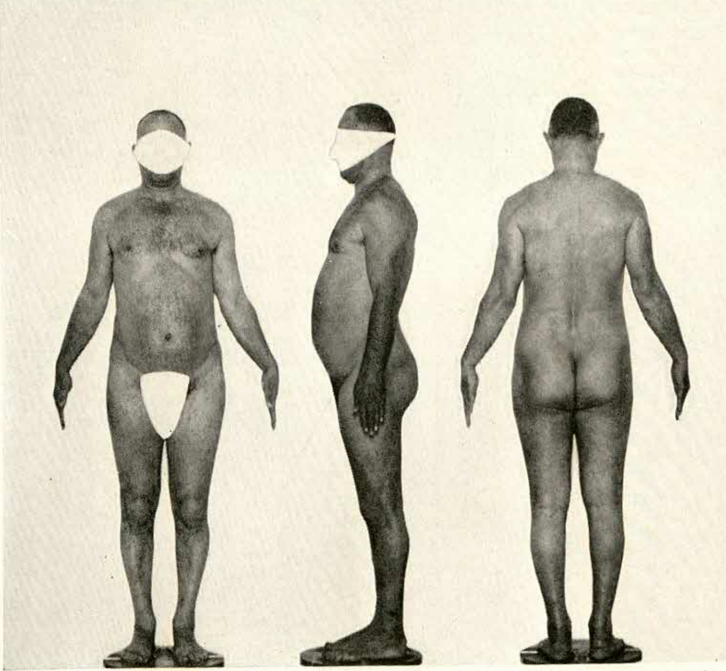


No. 725 *4 4 2* (*14*) 4 4 2–4 5 3 (4 4½ 2½) 12.70 at 21
3½ 4 3, 4 4½ 2½, 4 4½ 2½, 3½ 4 3, 4 4½ 2½

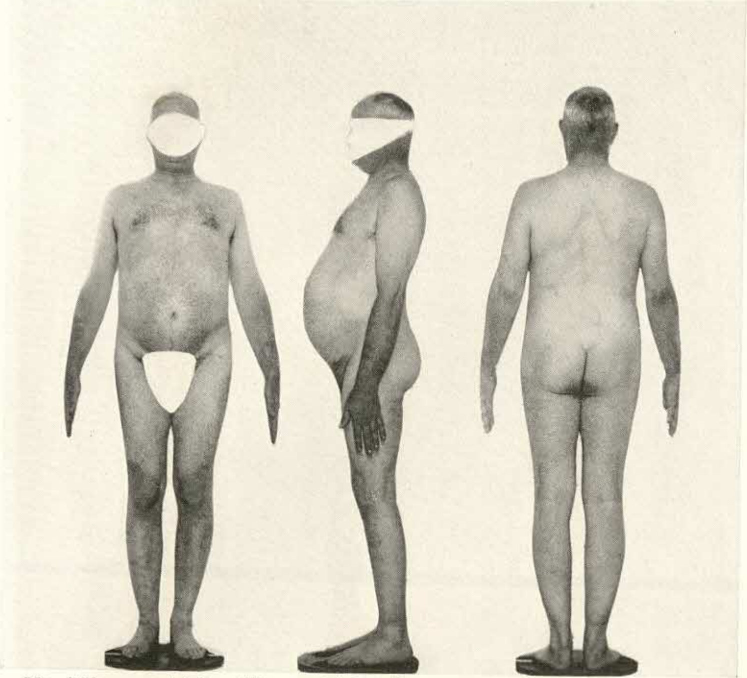


No. 726 *4 4 2* (*15*) 4 4 2–4 5 3 (4 4½ 2½) 12 24 at 34
4½ 4 2½, 4 4 2½, 4½ 4 2½, 4 4½ 2½, 4 5 2½

442



No. 727 *4 4 2* (*16*) 4 4 2–4 5 3 (4 4½ 2½) 11.90 at 52
3½ 4½ 2½, 4 4½ 2½, 4 4½ 2, 4 4½ 2½, 3½ 4½ 2½



No. 728 *4 4 2* (*17*) 4 4 2–4 5 3 (4 4½ 2½) 11.96 at 66
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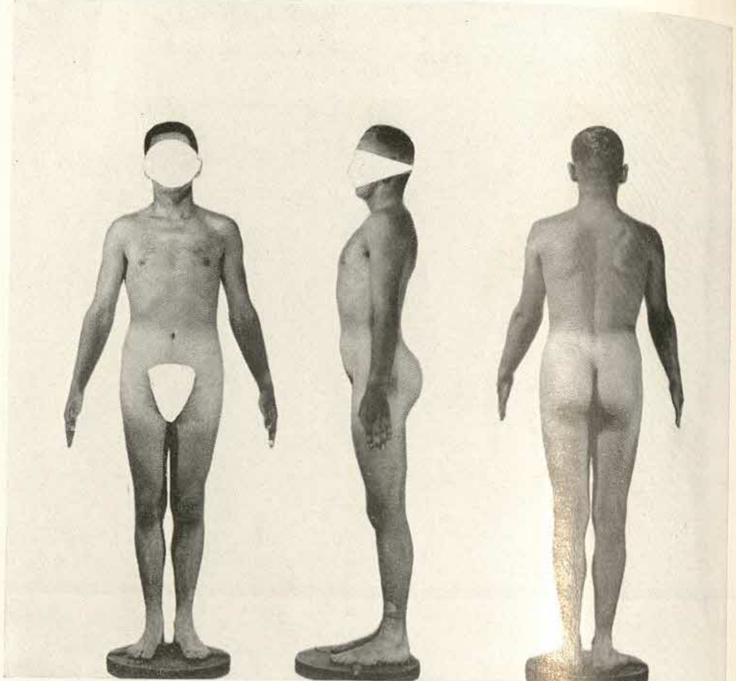
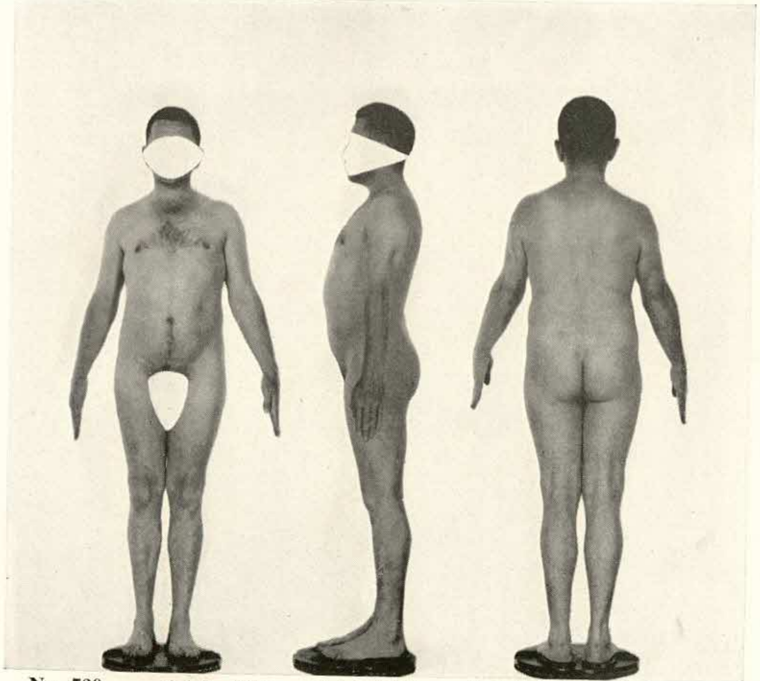
442

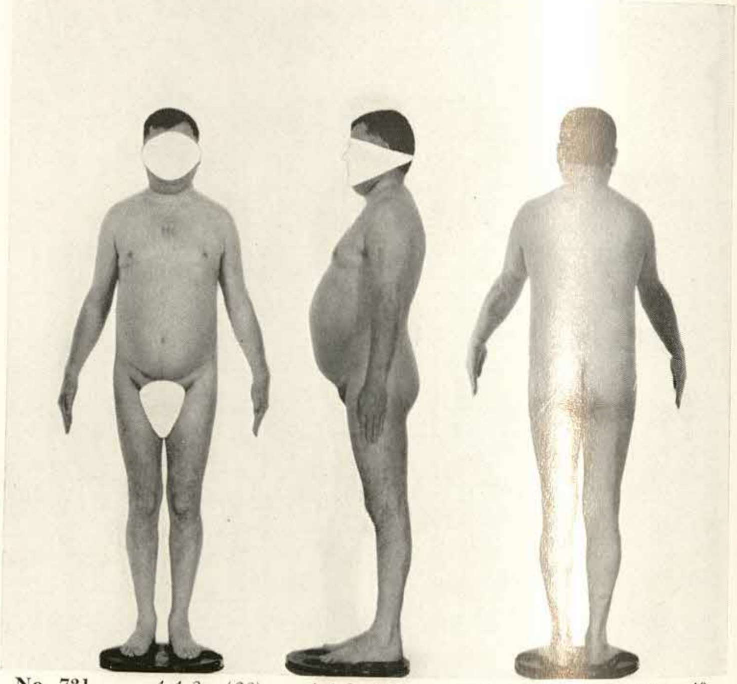


No. 729 *4 4 2* (*18*) 4 4 2–5 3 2 (4½ 3½ 2) 12.79 at 19
4½ 3½ 2, 4½ 3½ 2, 4½ 3½ 2, 4½ 3½ 2. 4½ 3½ 3

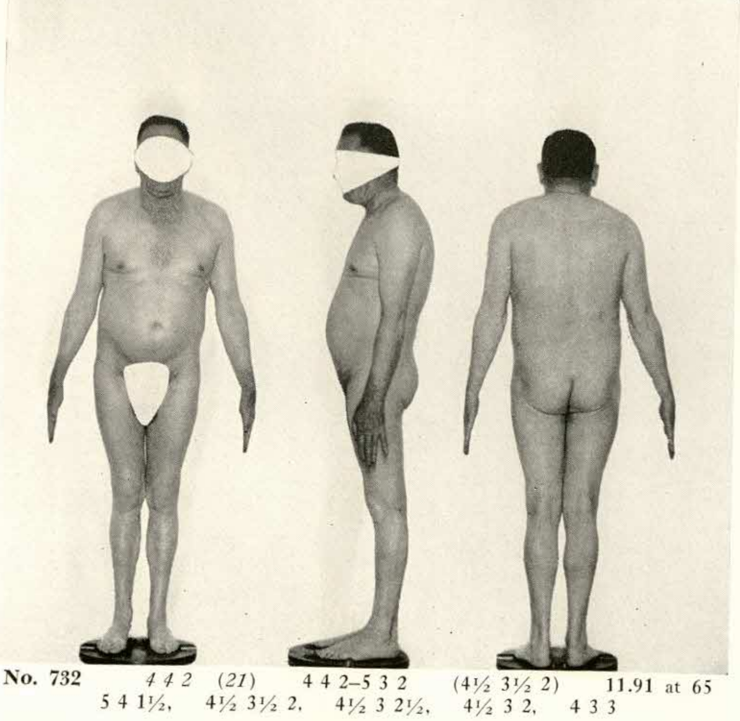


No. 730 *4 4 2* (*19*) 4 4 2–5 3 2 (4½ 3½ 2) 12.00 at 38
4½ 3½ 2, 4½ 3½ 2, 4½ 4 2, 4½ 3½ 2, 4½ 3½ 3

442

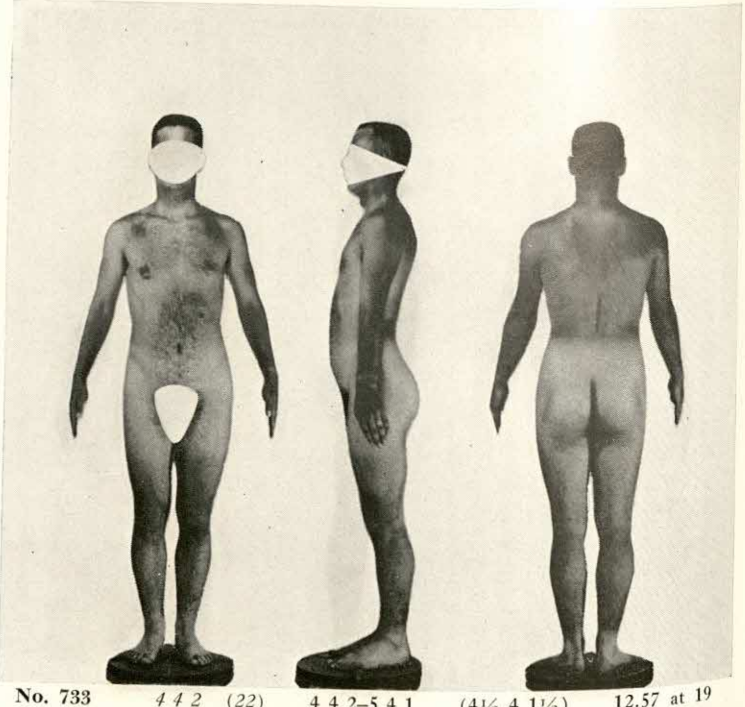


No. 731 *4 4 2* (*20*) 4 4 2–5 3 2 (4½ 3½ 2) 11.77 at 48
5 3½ 1½, 4½ 3½ 2, 4½ 3½ 2, 5 3 2, 4 3½ 3



No. 732 *4 4 2* (*21*) 4 4 2–5 3 2 (4½ 3½ 2) 11.91 at 65
5 4 1½, 4½ 3½ 2, 4½ 3 2½, 4½ 3 2, 4 3 3

442



No. 733 *4 4 2* (*22*) 4 4 2–5 4 1 (4½ 4 1½) 12.57 at 19
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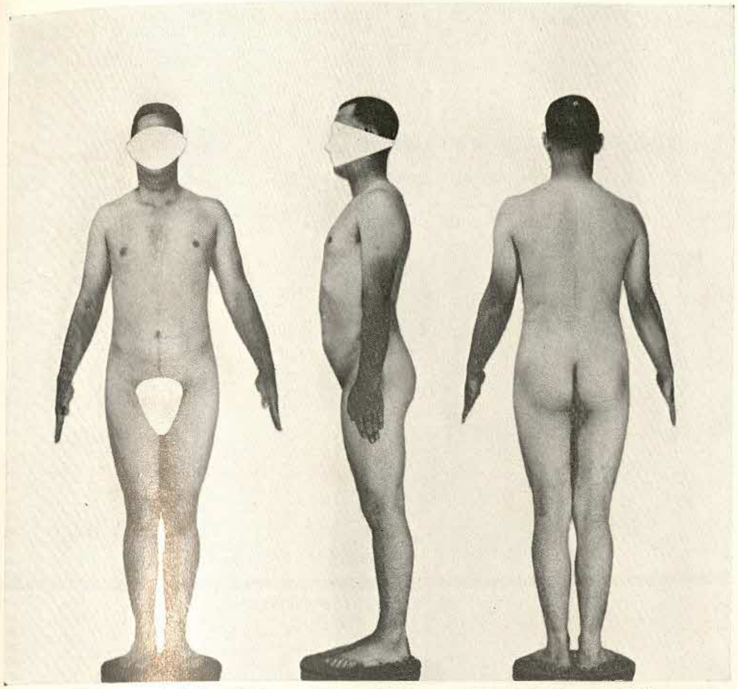
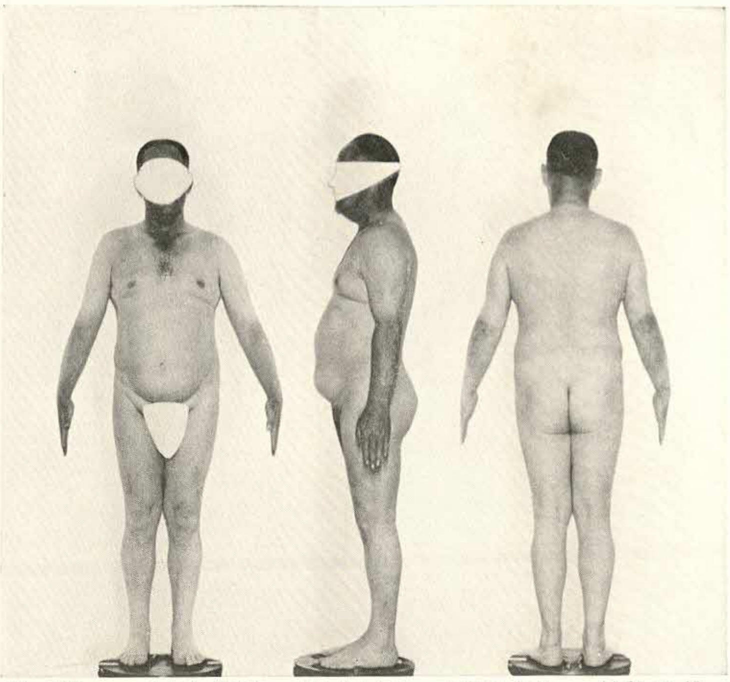
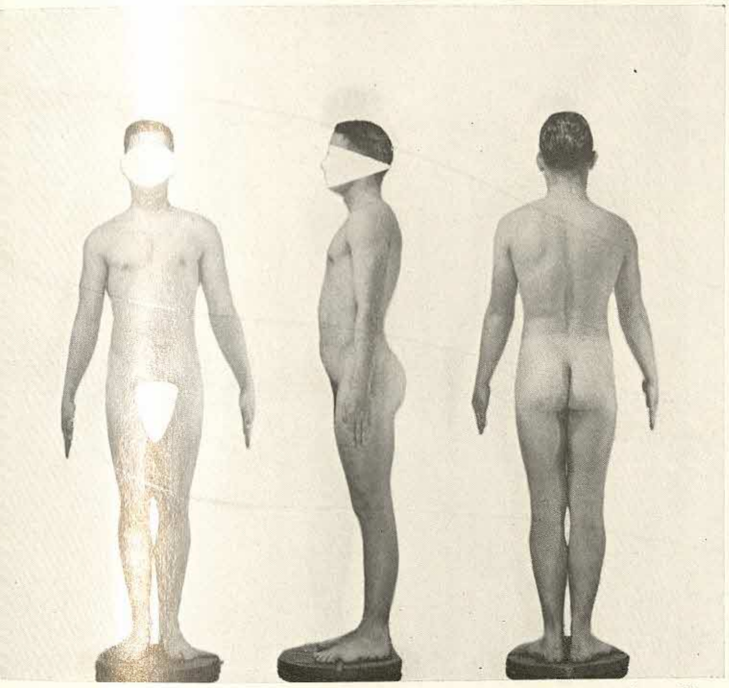


No. 734 *4 4 2* *(23)* 4 4 2–5 4 1 (4½ 4 1½) 12.34 at 24
4½ 4 2, 4½ 4 1½, 4½ 4 1½, 4½ 4 2, 4½ 4½ 1½

442

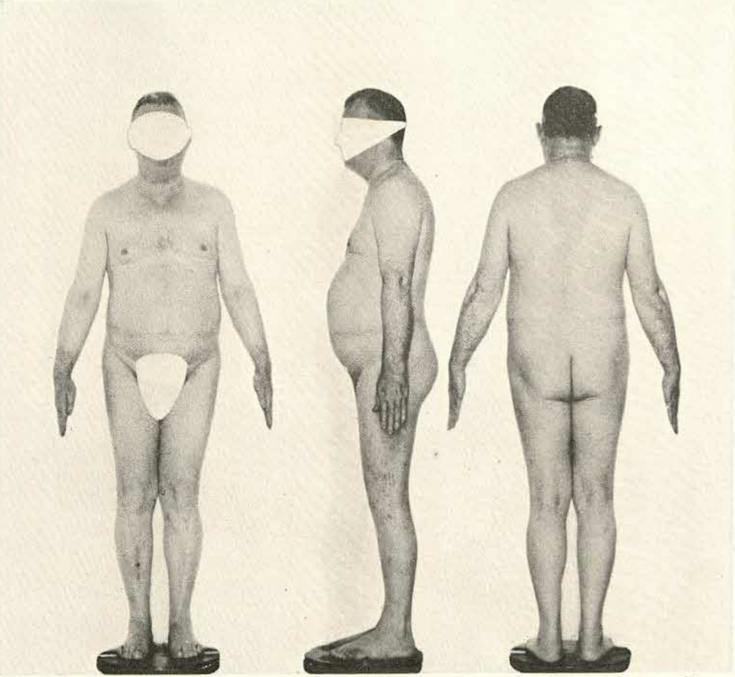


No. 735 *4 4 2* *(24)* 4 4 2–5 4 1 (4½ 4 1½) 11.54 at 49
4½ 4½ 1½, 4 4½ 1½, 4½ 4 1½, 4½ 4 1½, 4½ 4 1½

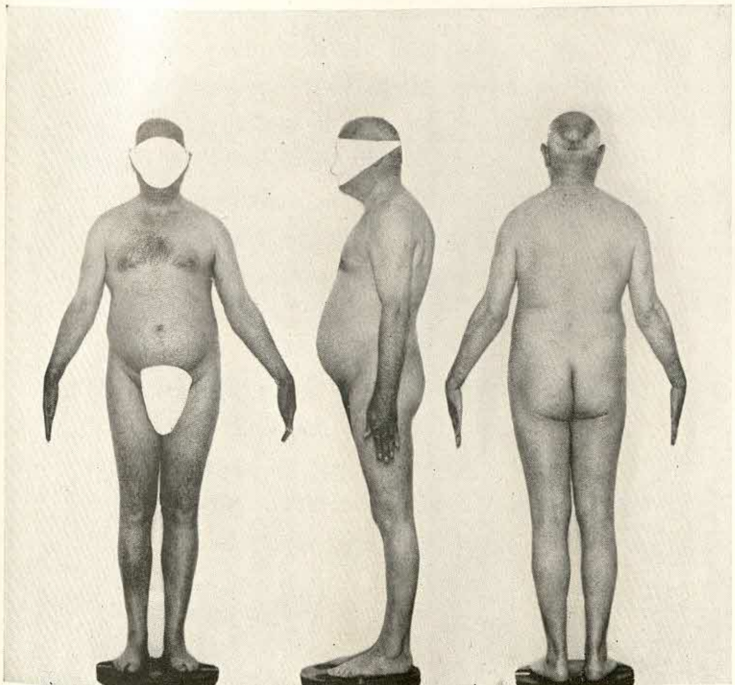


No. 736 *4 4 2* *(25)* 4 4 2–5 4 2 (4½ 4 2) 12.69 at 19
4½ 4 2½, 4½ 4 1½, 4½ 3½ 2½, 4½ 4 2, 4½ 4 2½

442

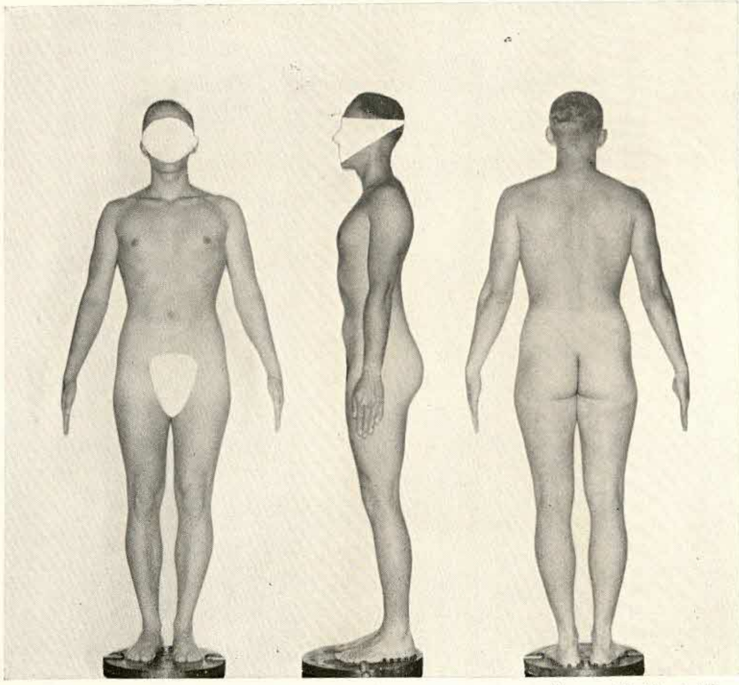


No. 737 *4 4 2* *(26)* 4 4 2–5 4 2 (4½ 4 2) 11.66 at 54
4½ 4½ 2, 4½ 4 2, 4½ 4½ 1½, 5 4 2, 4½ 4 2

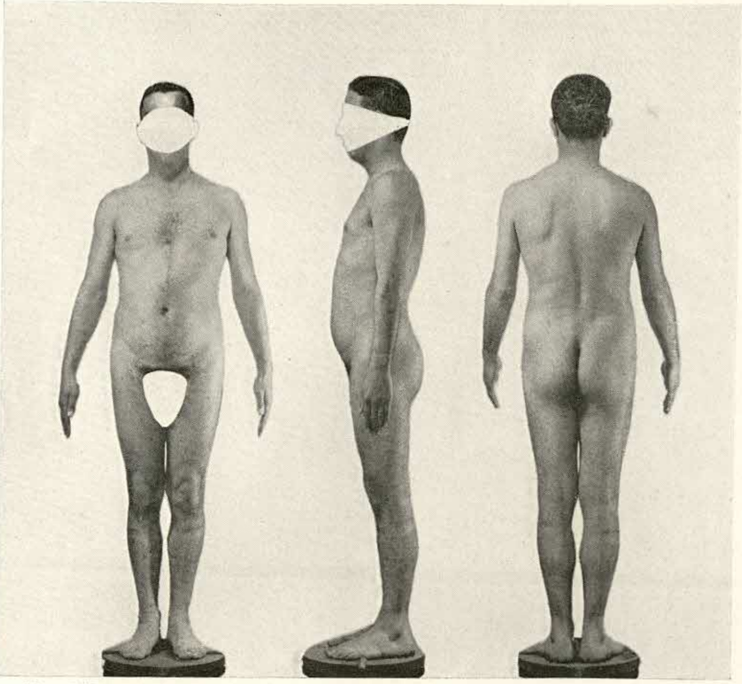


No. 738 *4 4 2* *(27)* 4 4 2–5 4 2 (4½ 4 2) 11.76 at 65
4½ 4½ 1½, 4½ 4 1½, 4½ 3½ 2½, 4½ 4 1½, 4 3½ 3

442

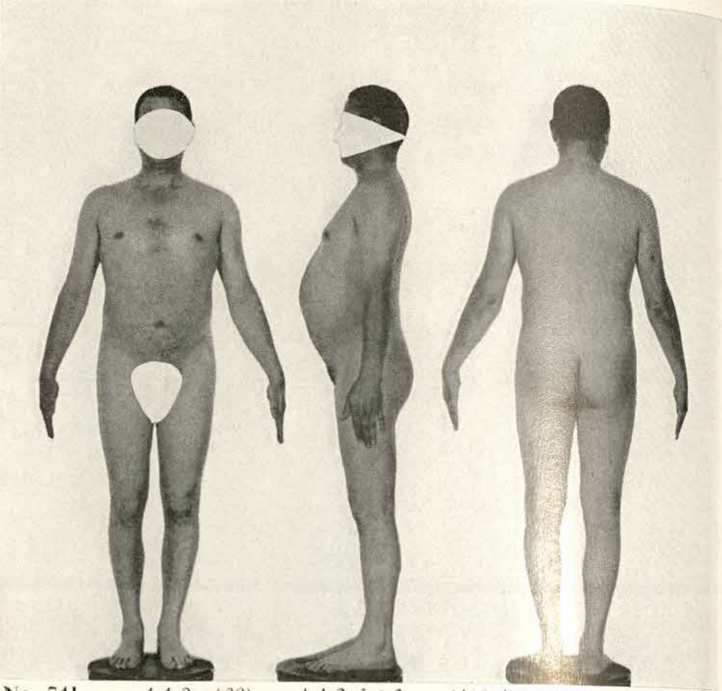


No. 739 *4 4 2* *(28)* 4 4 2–5 4 3 (4½ 4 2½) 12.58 at 22
4 3½ 3, 4½ 4½ 2½, 4½ 4 2½, 5 3½ 2½, 5 4 2½

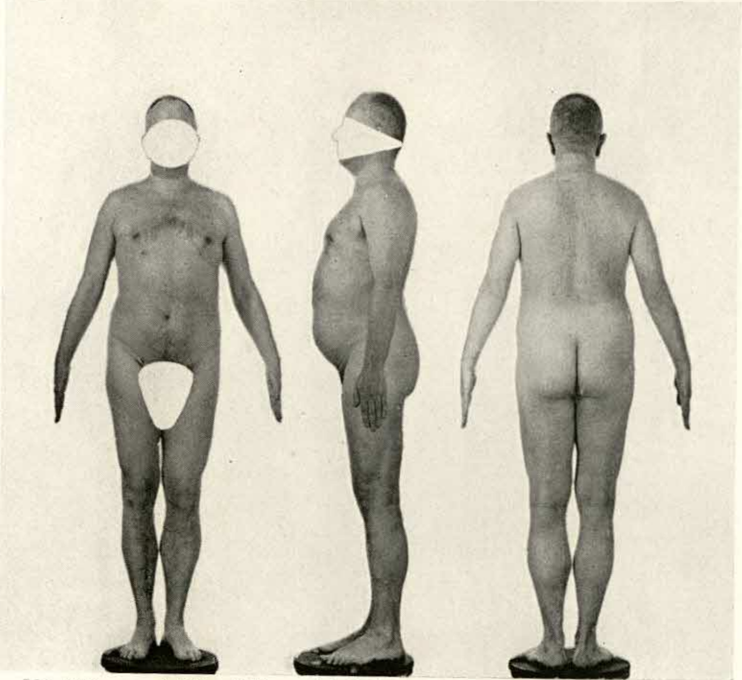


No. 740 *4 4 2* *(29)* 4 4 2–5 4 3 (4½ 4 2½) 12.33 at 27
4½ 4 2½, 4 4 3, 4 3½ 3, 4½ 4½ 2½, 4½ 4 2½

442

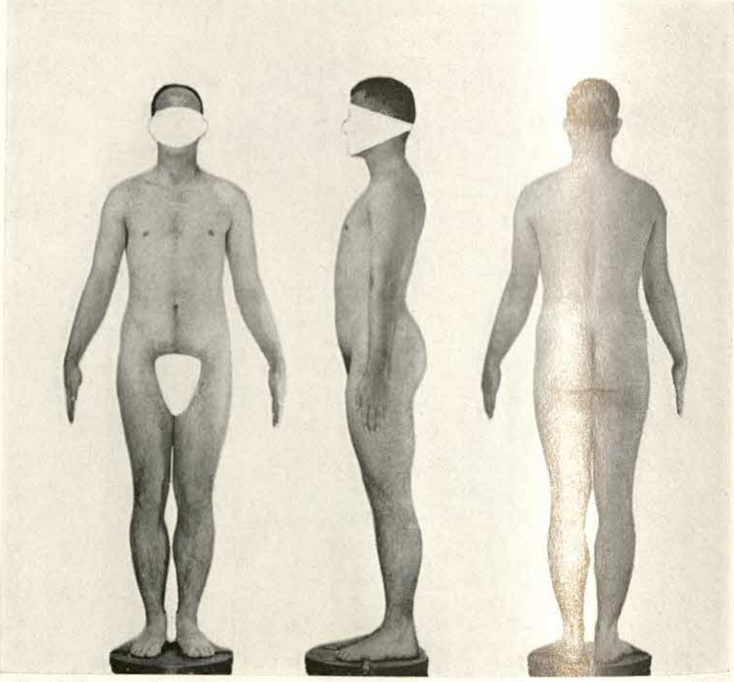


No. 741 *4 4 2* *(30)* 4 4 2–5 4 3 (4½ 4 2½) 11.98 at 37
4½ 4 2½, 4½ 4 2½, 4½ 4 2½, 4½ 3½ 2½, 4½ 3½ 2½

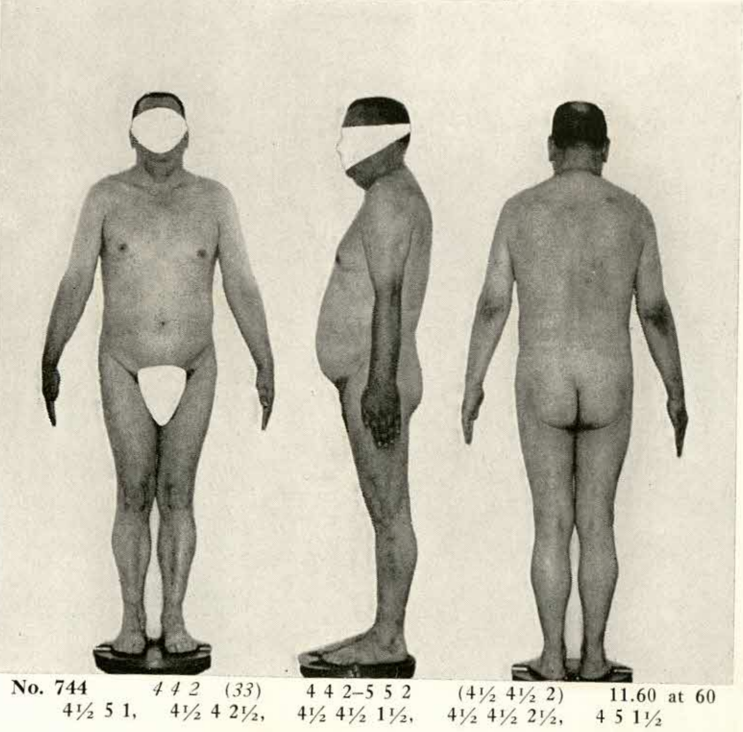


No. 742 *4 4 2* *(31)* 4 4 2–5 4 3 (4½ 4 2½) 11.81 at 48
4½ 4 2½, 5 3½ 2½, 4½ 4 2½, 5 4 2, 4½ 4½ 2½

442

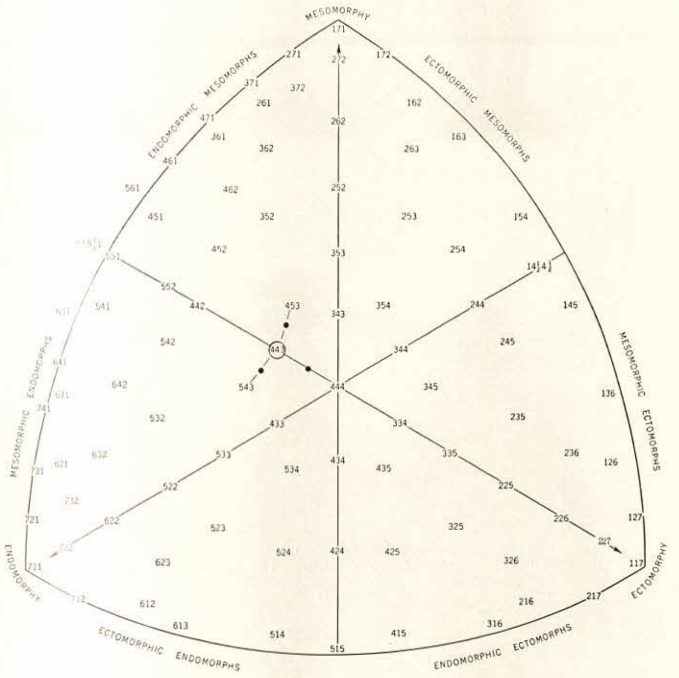


No. 743 *4 4 2* *(32)* 4 4 2–5 5 2 (4½ 4½ 2) 12.33 at 23
4 4 2½, 4½ 4 2, 4½ 4 2, 4½ 4½ 2, 5 5 1½

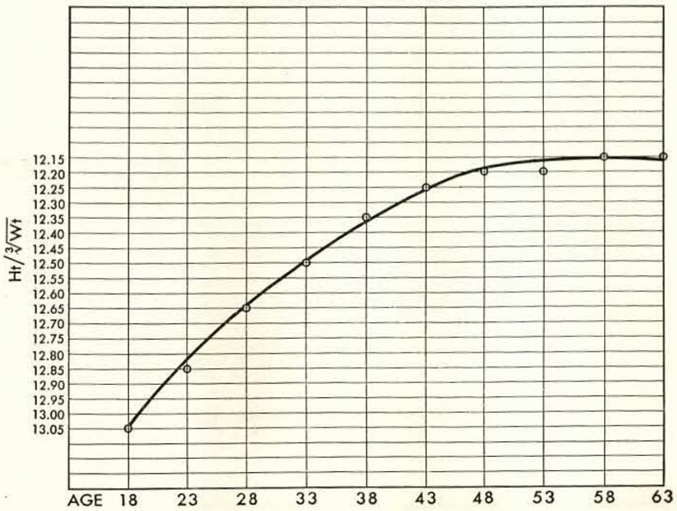


No. 744 *4 4 2* *(33)* 4 4 2–5 5 2 (4½ 4½ 2) 11.60 at 60
4½ 5 1, 4½ 4 2½, 4½ 4½ 1½, 4½ 4½ 2½, 4 5 1½

Somatotype 4 4 3 *(Balanced midrange endomorph-mesomorphs, 11-level.) Fox hounds, hounds of middle size. Longer legged, sprier and more active than the little beagle, yet these also are PPJ's and when deprived of regular exercise they tend to grow "too heavy in the barrel." Nos. 745–757.*



SOMATOTYPE 443

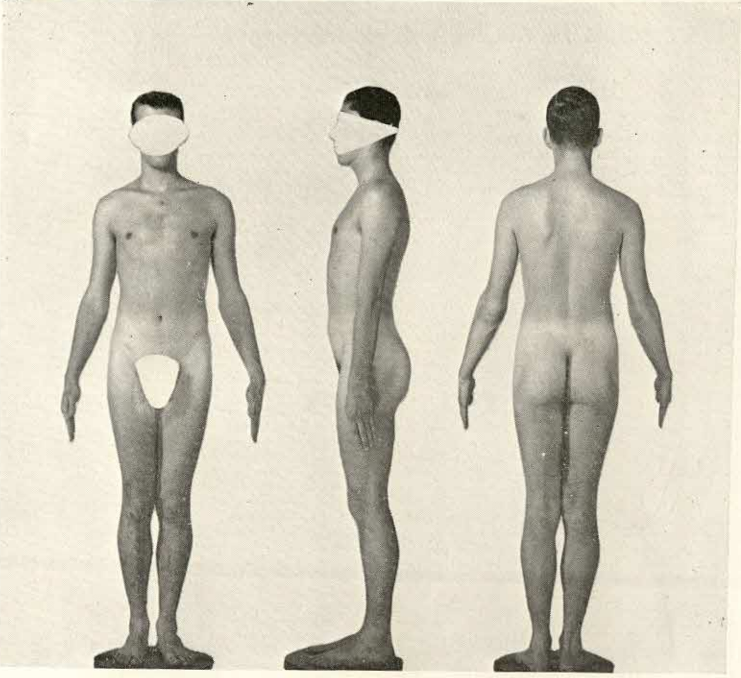


Weight for Age and Height

Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	189	198	209	217	223	231	234	234	234	234
74	181	190	201	208	214	222	224	224	224	224
73	174	183	193	200	206	213	216	216	216	216
72	167	175	185	191	197	204	207	207	207	207
71	160	168	177	184	189	196	198	198	198	198
70	154	162	170	177	182	188	190	190	190	190
69	147	155	163	169	174	180	182	182	183	183
68	141	148	156	162	167	172	174	174	175	175
67	135	142	149	155	159	165	167	167	167	167
66	129	135	142	148	152	157	159	159	160	160
65	123	129	136	141	145	150	152	157	152	152
64	117	123	130	134	138	143	145	145	145	145
63	112	118	124	128	132	137	138	138	139	139
62	106	112	118	122	126	130	132	132	132	132
61	101	107	113	116	120	124	125	125	126	126

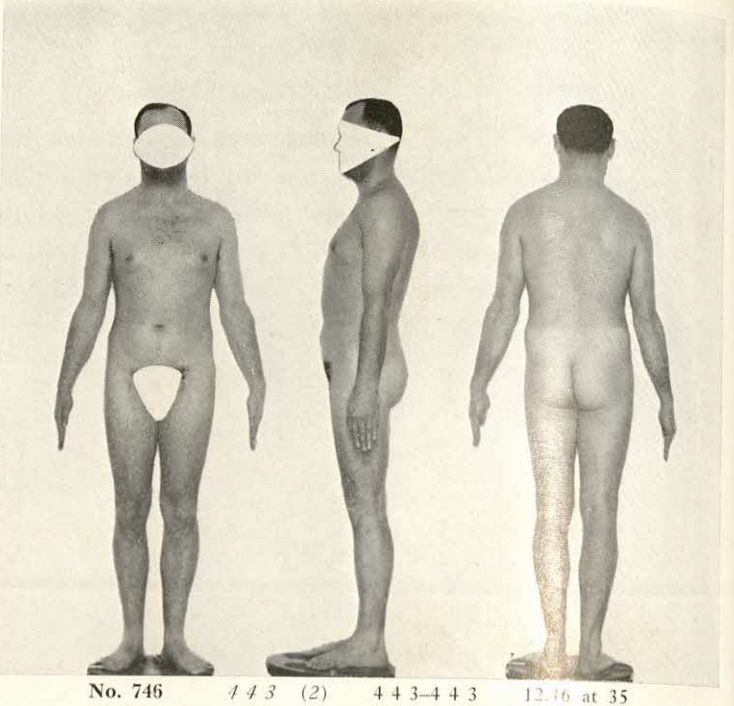
Rarity 1. Incidence 60 per thousand. Commonest somatotype, apparently, although the 3 4 4 is a close second and seems to be a little commoner in the colleges. Like the 4 4 2 a famous PPJ and often subject to dramatic lability of weight. In these midrange somatotypes there is a comparatively fine balance among the three primary components at the motivational level as well as at the morphological level of temperament. That is to say, viscerotonia, somatotonia and cerebrotonia are also in delicate balance, as well as endomorphy, mesomorphy and ectomorphy. Stability or instability of weight may be an important indication of a general stability or instability of the personality as a whole.

The majority of 4 4 3's remain fairly weight stable throughout their adult lives. They follow the average nutrition curve of the somatotype closely enough that ordinarily there is little difficulty in identifying the somatotype at whatever age their standard photograph is taken. Yet when a sizable population of male 4 4 3's is reviewed, it is found that a few, possibly as many as one in ten, show quite a different tendency. Instead of being weight stable they are weight labile, and they sometimes present what appears to be a regular cyclic rhythm of gain and loss—almost a metabolic systole and diastole. This instability of weight is apparently associated with psychological, or psychiatric instability. At any rate it is a phenomenon found with great frequency, and often in exaggerated degree, in the mental hospitals.

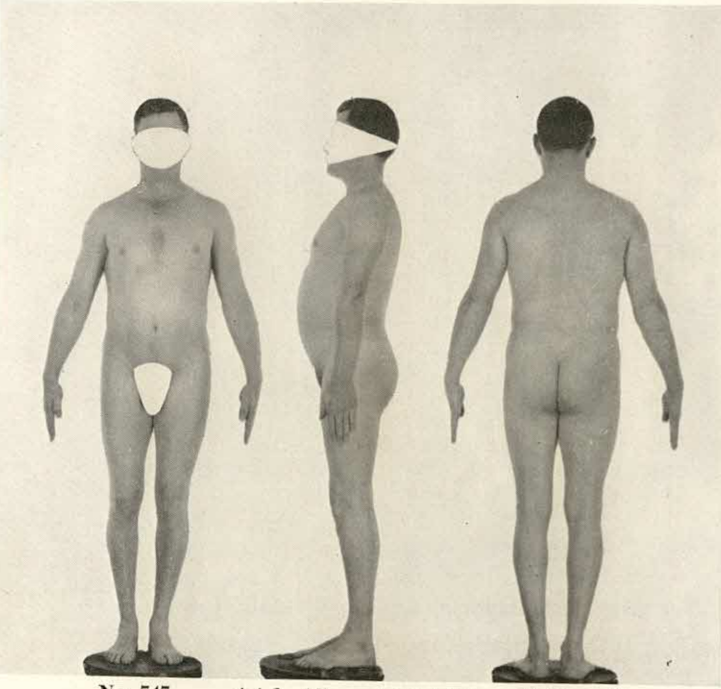


No. 745 *4 4 3* (*1*) 4 4 3–4 4 3 13.05 at 19
3 4 4, 4 4 3, 4 3½ 3, 4 4 3, 4½ 4 3

443

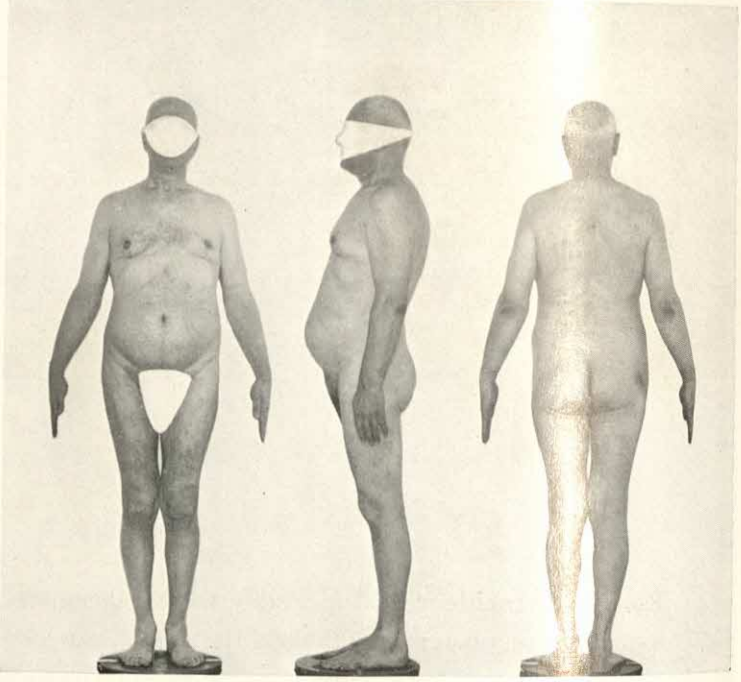


No. 746 *4 4 3* (*2*) 4 4 3–4 4 3 12.46 at 35
4½ 4 2½, 4 4 3, 4 4½ 2½, 4 4 2½, 4 4 3½

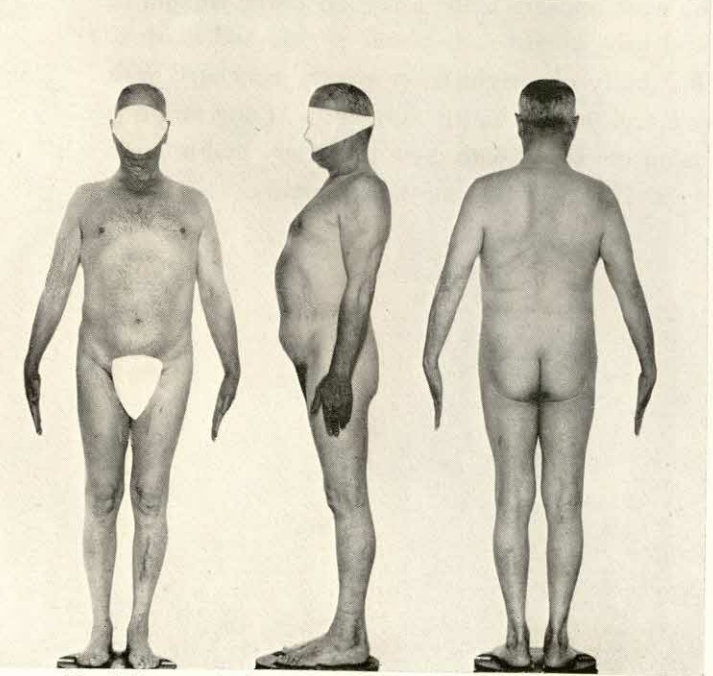


No. 747 *4 4 3* (*3*) 4 4 3–4 4 3 12.21 at 45
4 4½ 3, 4½ 4 2½, 4 3½ 3, 4 4 3, 4 3 4

443

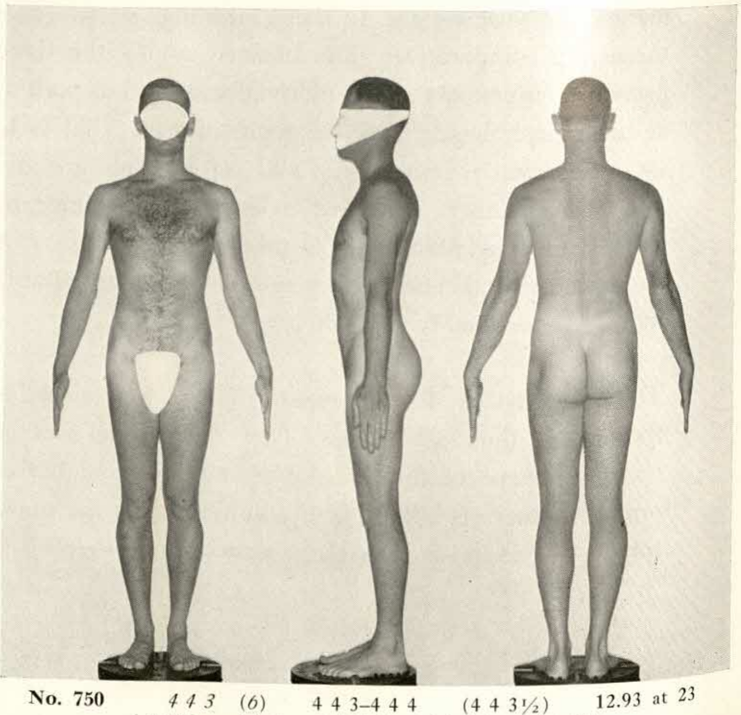


No. 748 *4 4 3* (*4*) 4 4 3–4 4 3 12.16 at 63
4 4 3, 3½ 4 2½, 4 5 2, 4 4 3, 3½ 4 3½



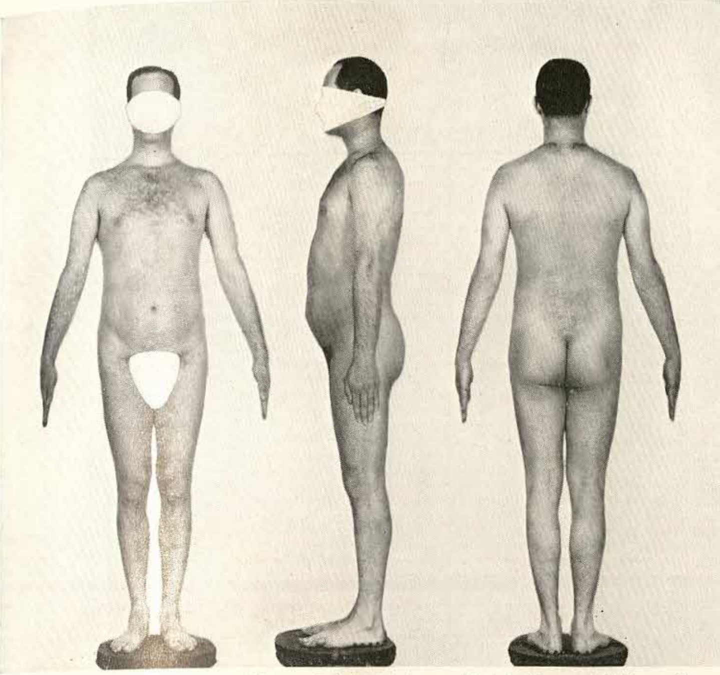
No. 749 *4 4 3* (*5*) 4 4 3–4 4 3 12.17 at 65
4 4½ 2½, 4 4 3, 4 4 3, 4 4 3, 3½ 4½ 3½

443

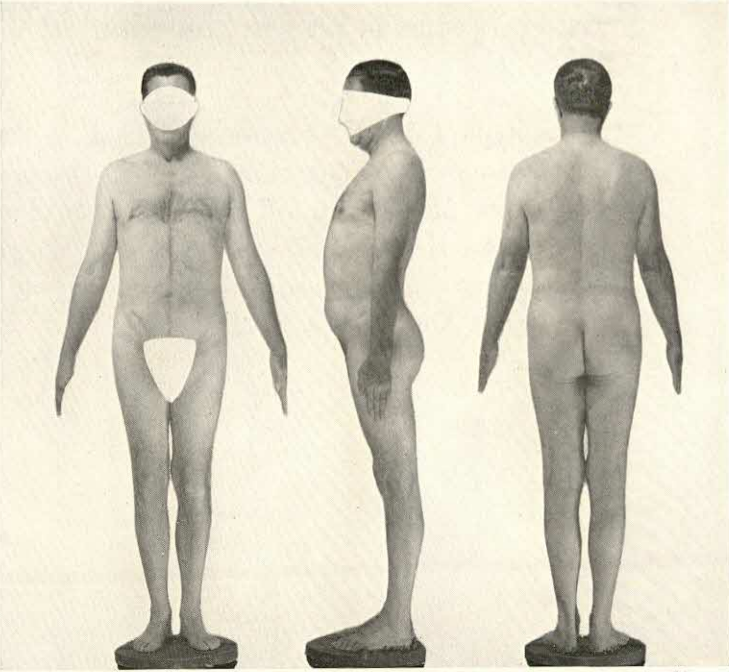


No. 750 *4 4 3* (*6*) 4 4 3–4 4 4 (4 4 3½) 12.93 at 23
4 4 3½, 4 4 4, 4 4 3½, 4 4 3½, 4 4 3½

443

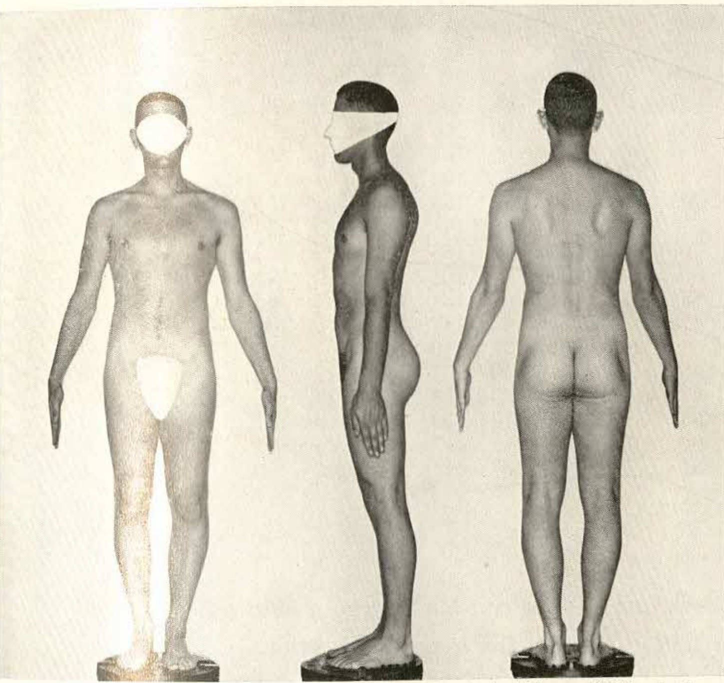


No. 751 *4 4 3* *(7)* 4 4 3–4 4 4 (4 4 3½) 12.40 at 40
4 4 3½, 4 4 3½, 4 4 3½, 4 4 3½, 4 4 3½

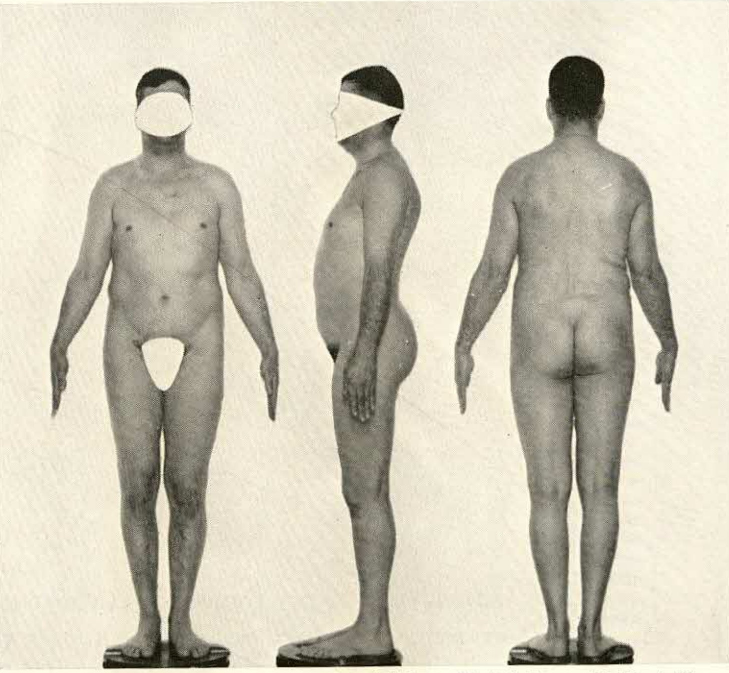


No. 752 *4 4 3* *(8)* 4 4 3–4 4 4 (4 4 3½) 12.30 at 53
4½ 4 3½, 4 3½ 4, 4½ 4 3, 4 4 3½, 4 3½ 3½

443

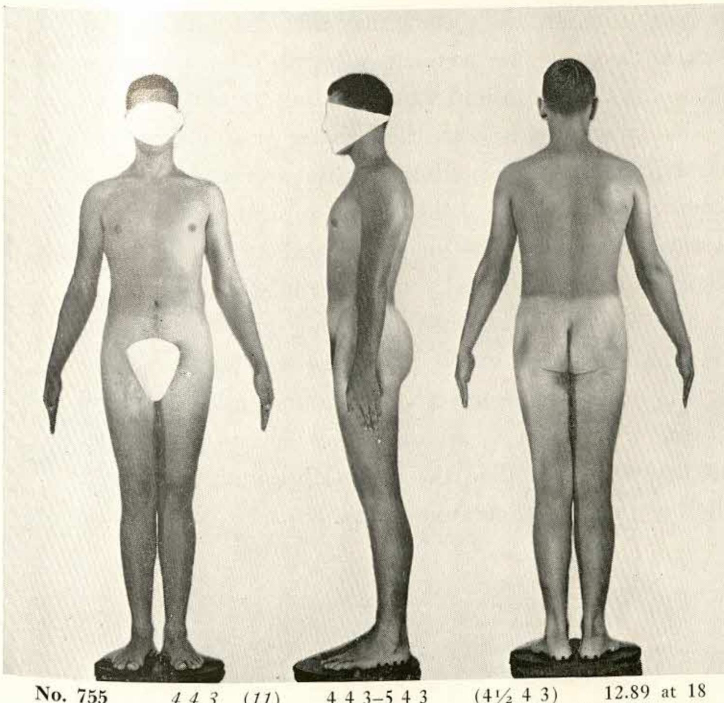


No. 753 *4 4 3* *(9)* 4 4 3–4 5 3 (4 4½ 3) 12.73 at 24
4 4 3, 3½ 4½ 3½, 4 4 3, 4 4½ 3, 4 4½ 2½

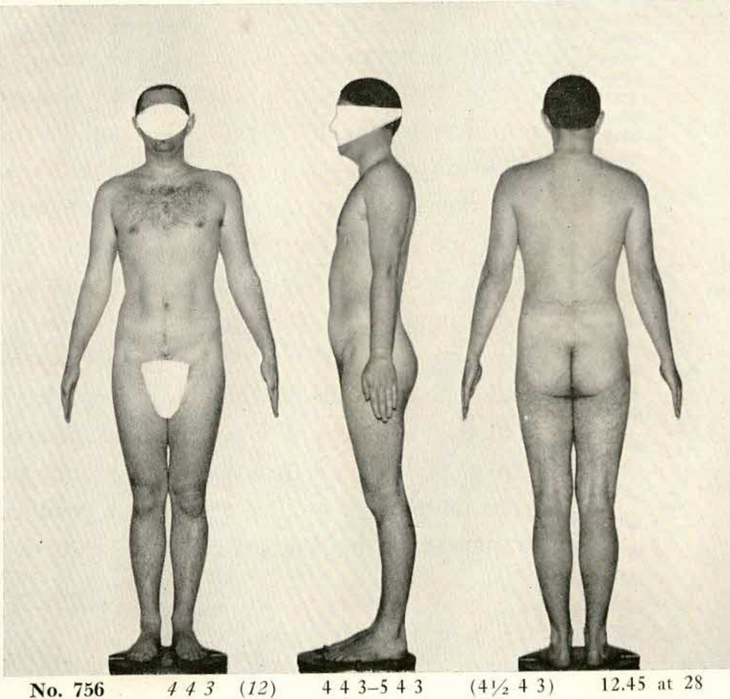


No. 754 *4 4 3* *(10)* 4 4 3–4 5 3 (4 4½ 3) 12.15 at 42
4 4 3, 4½ 4 3, 4 4½ 3, 4½ 4½ 3, 4 5 2½

443

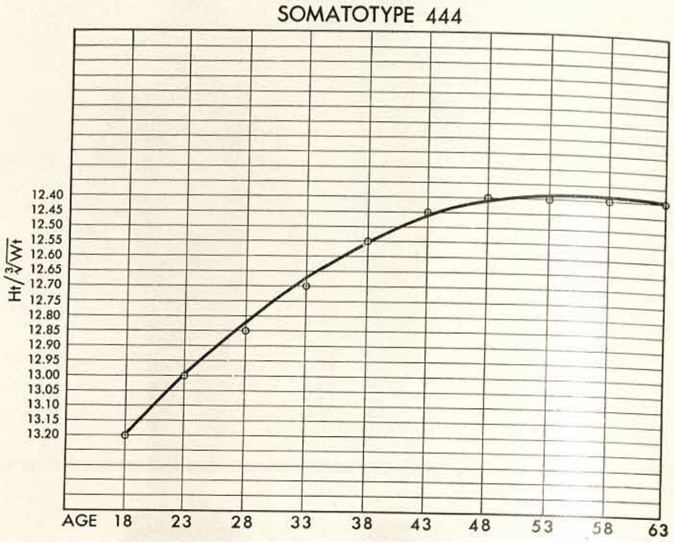


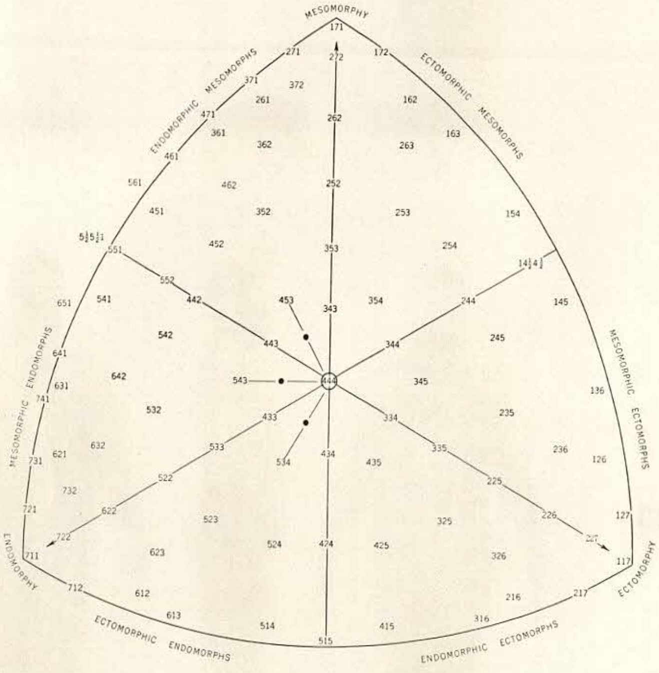
No. 755 *4 4 3* *(11)* 4 4 3–5 4 3 (4½ 4 3) 12.89 at 18
4½ 3½ 3½, 4½ 3½ 3, 4½ 4 3, 4½ 4 3, 5 4 2½



No. 756 *4 4 3* *(12)* 4 4 3–5 4 3 (4½ 4 3) 12.45 at 28
4 3½ 3, 4½ 4 3, 4½ 4 3, 4½ 4 3, 4½ 4 3

Somatotype 4 4 4 *(The balanced 12-level, or Top-of-the-Mountain somatotype.) Big hounds. Deerhounds, wolfhounds, bloodhounds. All of them heavier, stronger, more endomorphic than the greyhound, and taller, more ectomorphic than foxhounds. They grow fat and lazy with disuse. Nos. 758–774.*





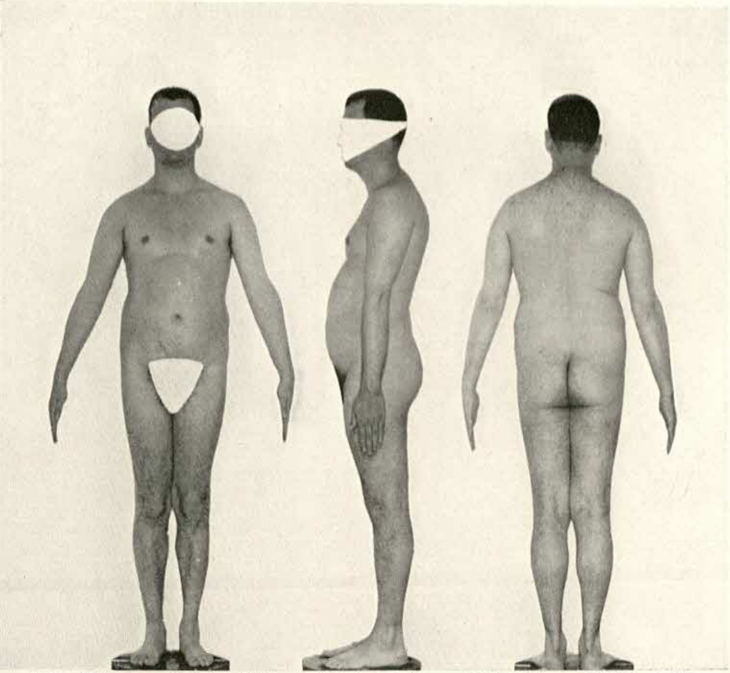
Weight for Age and Height

Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	183	192	198	206	212	219	220	220	221	221
74	176	184	190	198	204	210	211	212	212	212
73	169	177	183	190	196	202	203	204	204	204
72	163	170	176	183	189	194	195	195	196	196
71	155	163	168	175	180	185	187	187	187	187
70	149	156	162	168	173	178	179	179	180	180
69	143	150	155	161	166	170	172	172	172	172
68	137	143	148	154	159	163	165	165	165	165
67	131	137	142	147	152	156	157	157	158	158
66	125	131	135	140	145	149	150	150	151	151
65	119	125	129	134	138	142	143	143	144	144
64	114	119	123	128	132	135	137	137	137	137
63	109	114	118	122	126	129	131	131	131	131
62	103	108	112	117	120	123	125	124	124	124
61	99	103	107	111	114	117	119	119	119	119

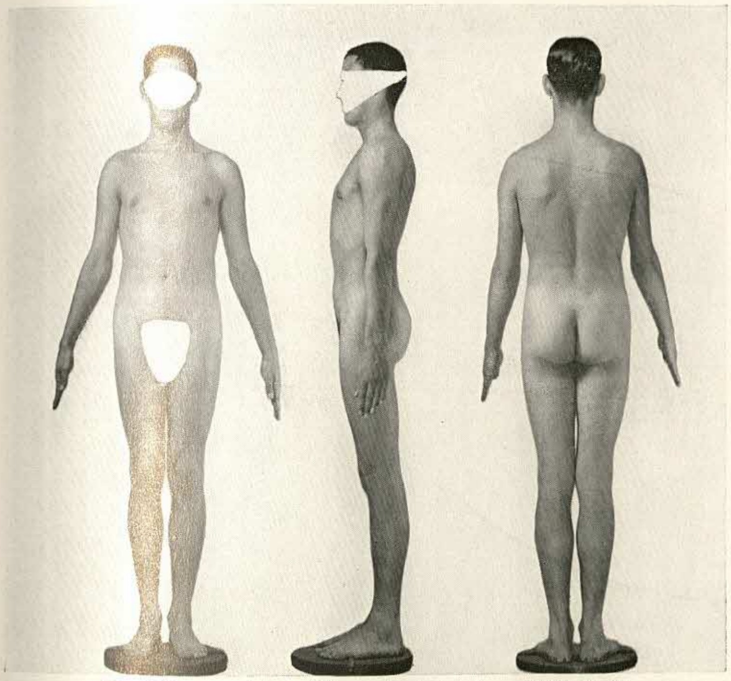
Rarity 1. Incidence 42 per thousand. Commonest of the 12-level somatotypes, and possibly the 4 4 4's, taken as a group, are psychologically the most complex and most interesting of people.

Let the distribution of the somatotypes be visualized in its true three-dimensionality and it assumes a shape comparable to a mountain range, with low foothills trailing off in three directions—to the North, to the Southeast, and to the Southwest. At the very top, at the peak and center, sits the 4 4 4. He alone looks down all three major slopes, and theoretically at least, may be equally tempted to move in all three directions at once. His motivation (impulse to move, moving force) is strongly viscerotonic, strongly somatotonic and strongly cerebrotonic all at the same time. Viewed from any perspective but his own, perhaps, the psychological position of the 4 4 4 looks more like a predicament than a position. He seems to suggest the predicament of a man trying to drive three equally powerful horses whom nature has pointed in almost orthogonally opposed directions.

From his own perspective, however, when the 4 4 4 is in the best of health, the picture may take quite a different form. Occasionally he seems to succeed in harnessing or combining the warm and social binding-together quality of viscerotonia with both the driving power of somatotonia and the time-binding quality or far-sightedness of cerebrotonia. The 4 4 4 is then a superb, and perhaps an *elevated* personality—man's nearest approach to his persistent vision of Divinity, who he maintains is motivationally a 7 7 7, at once all-loving and omnipotent and omniscient. See Vol. 3, p. 91. But we should remember the biblical warning that many are called and few chosen. A few 4 4 4's become eminent, gifted people. But many are found in the mental hospitals with such labels as mixed (or catatonic) psychosis.

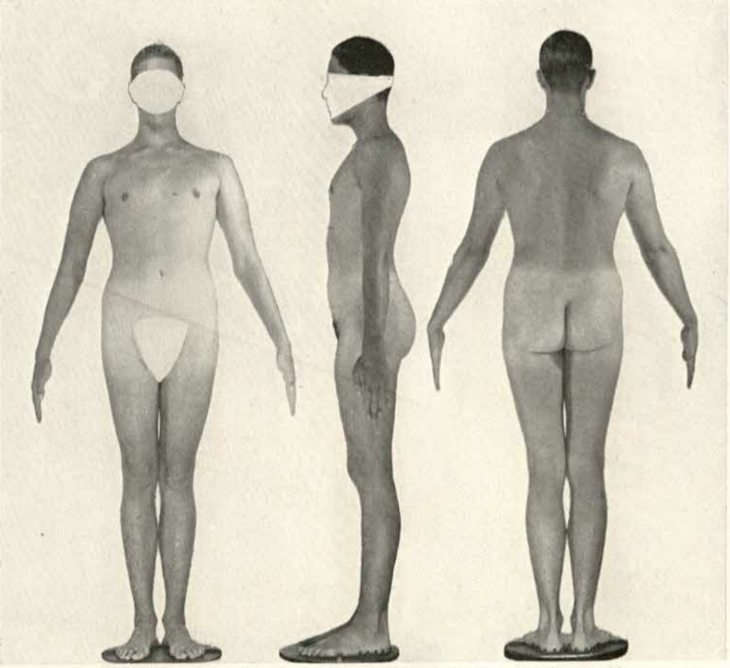


No. 757 *4 4 3* (*13*) 4 4 3–5 4 3 (4½ 4 3) 12.20 at 35
4½ 4 3, 4½ 4 3, 4½ 4 3, 5 3½ 3, 4½ 3½ 3

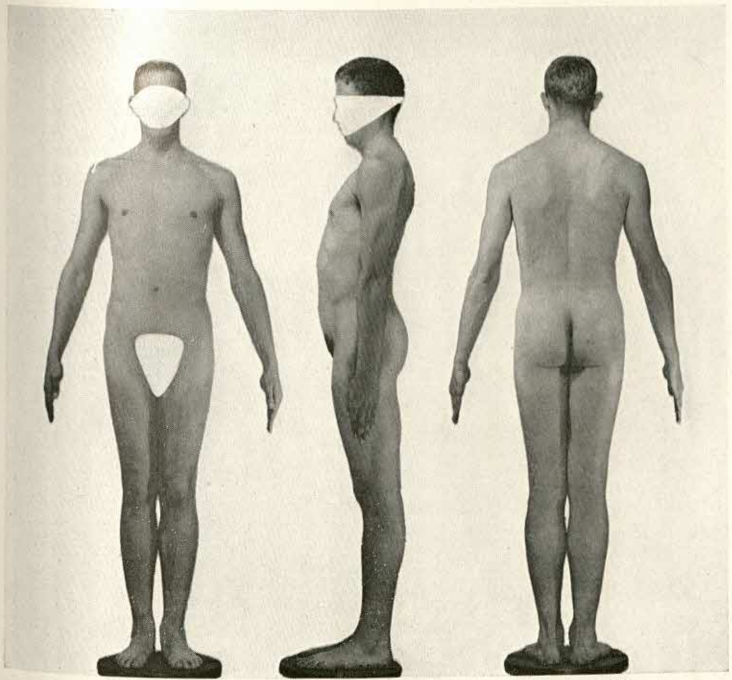


No. 758 *4 4 4* (*1*) 4 4 4–4 4 4 13.22 at 18
3½ 4 4, 4 4 4, 4 4 4, 3½ 4 4, 4 4 4

444

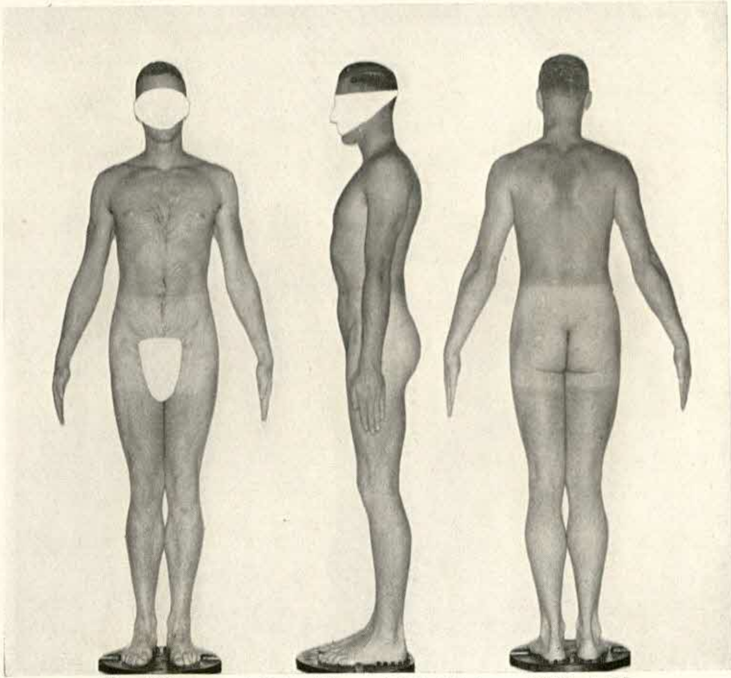


No. 759 *4 4 4* (*2*) 4 4 4–4 4 4 13.17 at 18
3½ 3½ 5, 4 4½ 3½, 4 3½ 4½, 4½ 4 3½, 4½ 4 3½

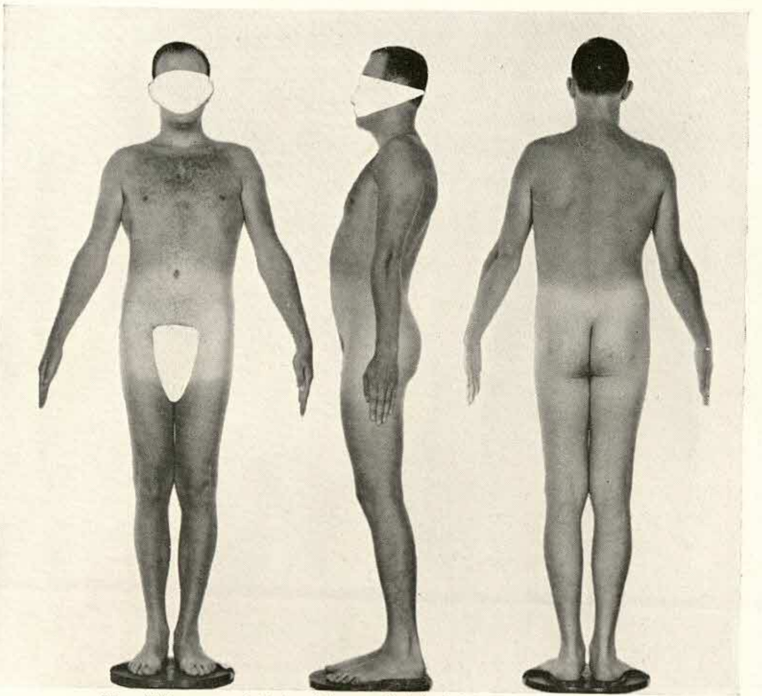


No. 760 *4 4 4* (*3*) 4 4 4–4 4 4 13.02 at 22
4 3½ 4½, 3½ 3½ 4½, 3½ 4½ 3½, 4 4 4, 5 4 3

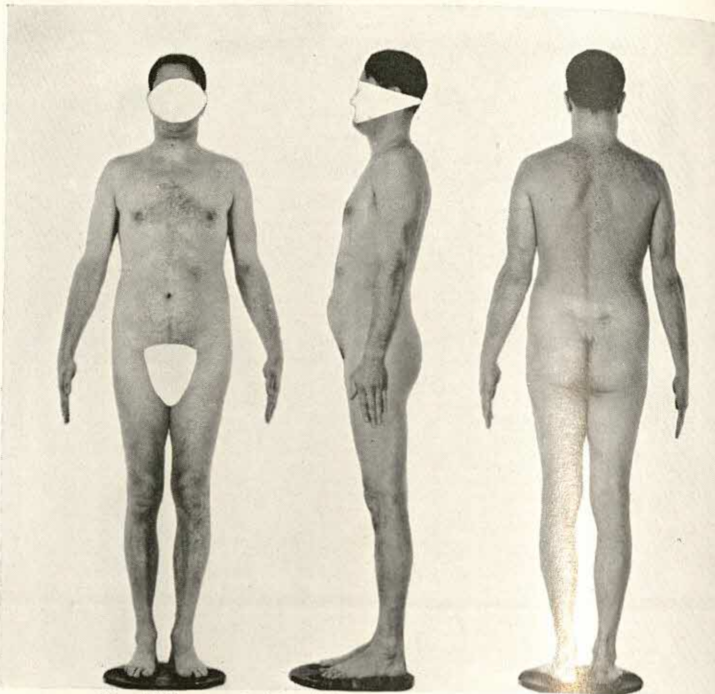
444



No. 761 *4 4 4* (*4*) 4 4 4–4 4 4 12.93 at 25
3½ 3½ 4½, 4 4 3½, 4 4 3½, 4 4 4, 4 4 3½

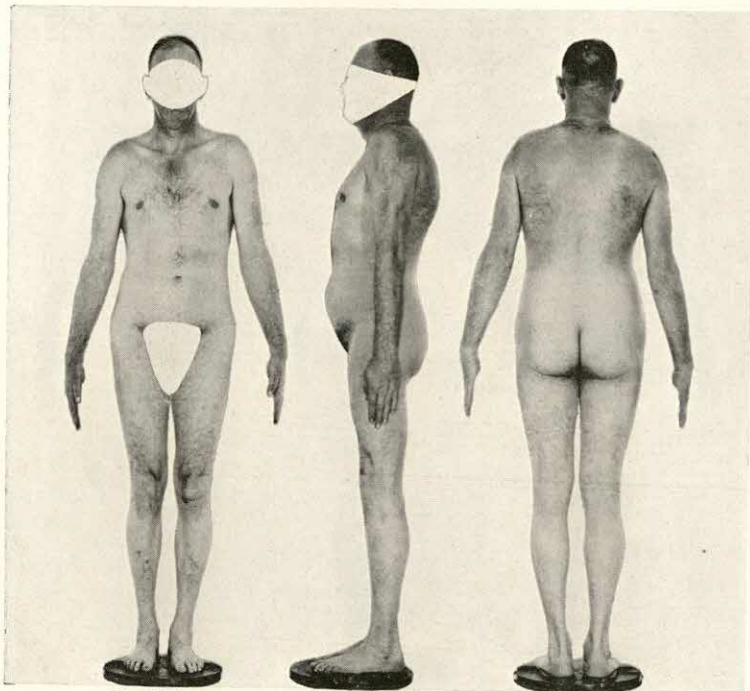


No. 762 *4 4 4* (*5*) 4 4 4–4 4 4 12.83 at 29
4 4 4, 4 4 4, 4 4 3½, 4 4 4, 4 4 4

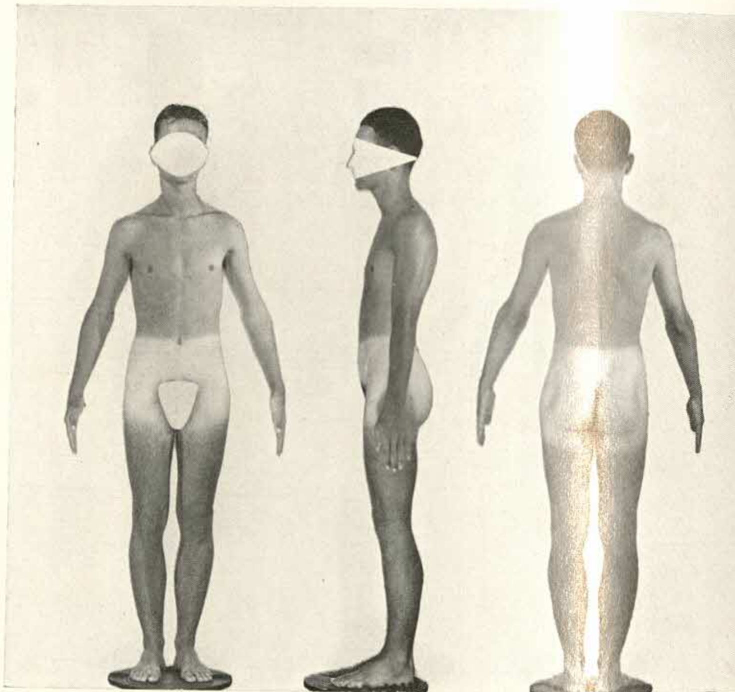


No. 763 *4 4 4* (*6*) 4 4 4–4 4 4 12.70 at 34
4 4½ 3½, 4 4 4, 4 4 3½, 4 4 4, 3½ 3½ 4½

444

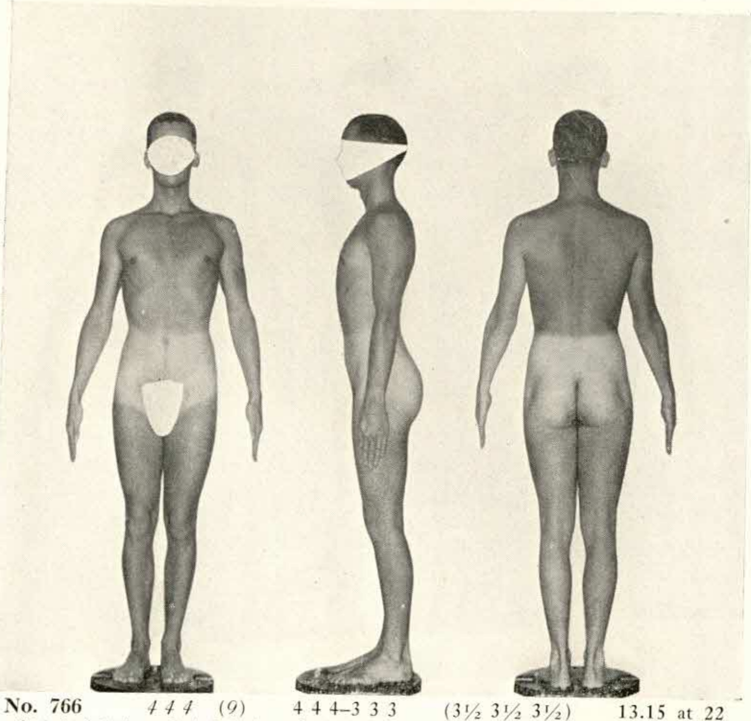


No. 764 *4 4 4* (*7*) 4 4 4–4 4 4 12.40 at 59
4 4 4, 4 3½ 4, 4 4 3, 4 4 4, 3½ 3½ 5

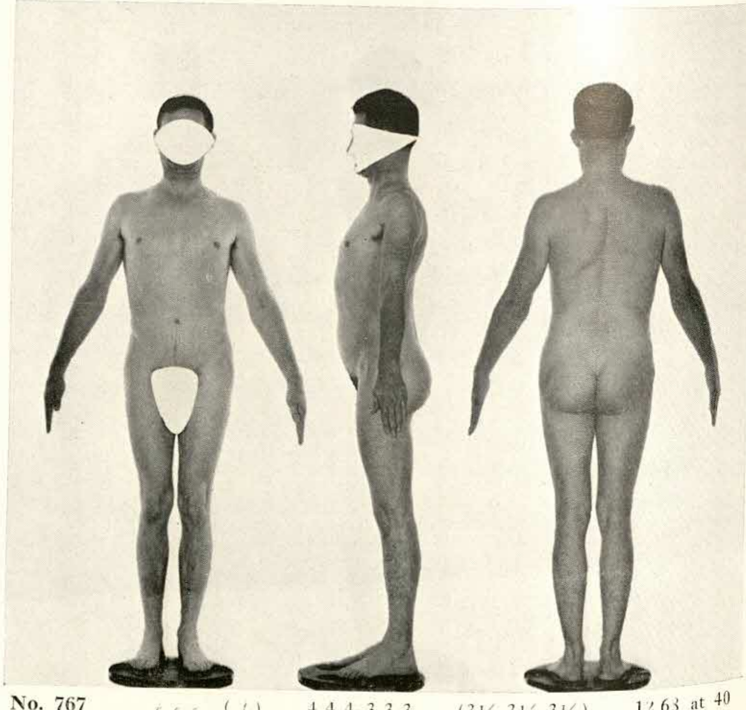


No. 765 *4 4 4* (*8*) 4 4 4–3 3 3 (3½ 3½ 3½) 13.29 at 18
3 3 4, 3½ 3½ 3½, 3½ 3 4, 3½ 3½ 3½, 4 4 2

444

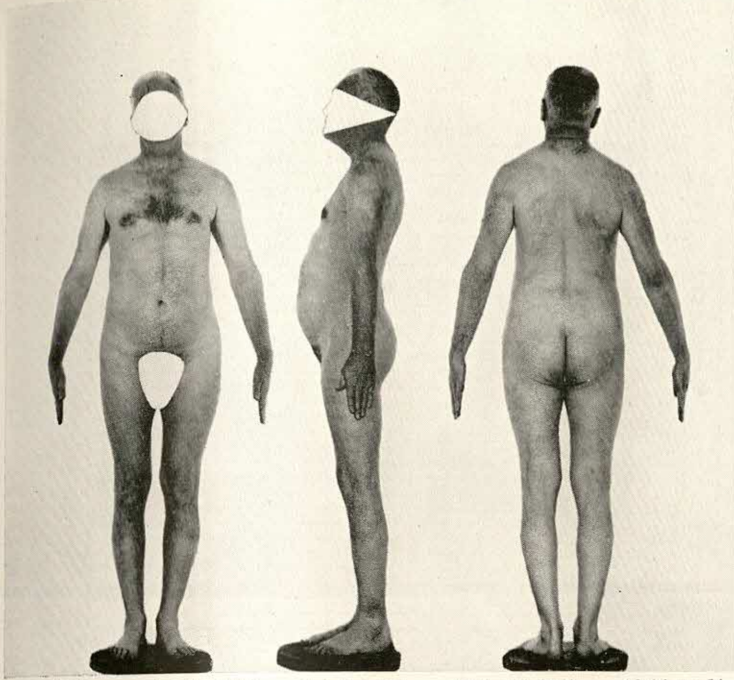


No. 766 *4 4 4* (*9*) 4 4 4–3 3 3 (3½ 3½ 3½) 13.15 at 22
3½ 3½ 3½, 3½ 4 3½, 3½ 3½ 3½, 3½ 3½ 3½, 3½ 3½ 3½



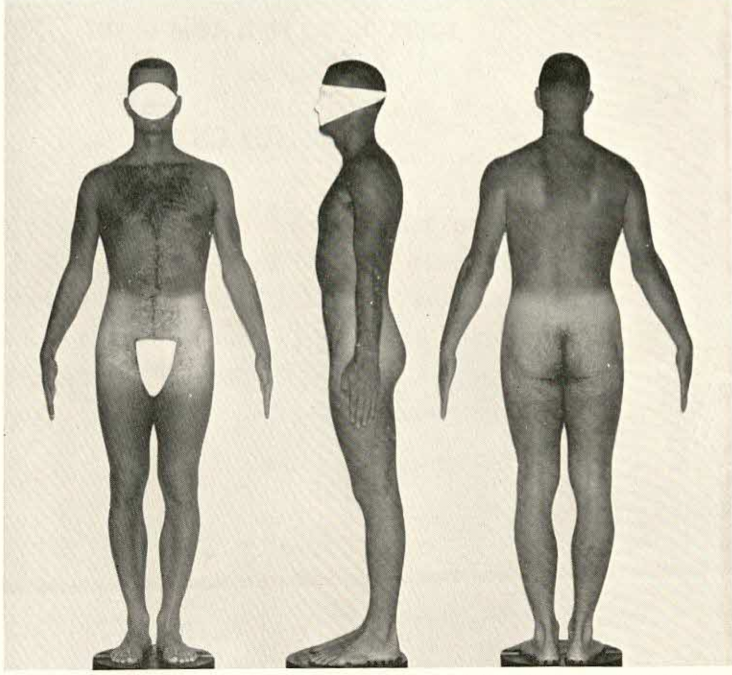
No. 767 *4 4 4* (*10*) 4 4 4–3 3 3 (3½ 3½ 3½) 12.63 at 40
3½ 3½ 3½, 3½ 3½ 3½, 3½ 3½ 3, 3½ 3½ 3½, 3 3½ 4

444

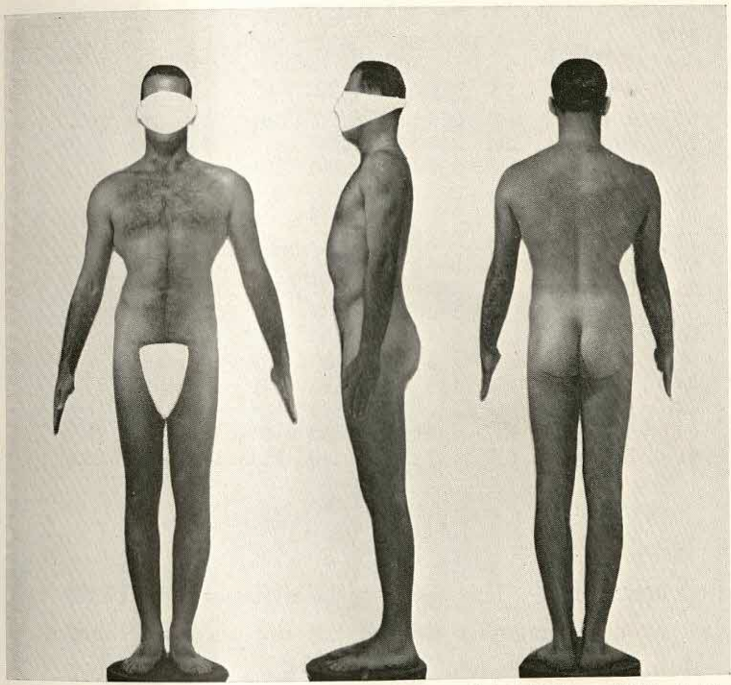


No. 768 *4 4 4 (11)* 4 4 4–3 3 3 (3½ 3½ 3½) 12.46 at 54
3½ 4 3, 3½ 3 3½, 3½ 3½ 3, 3½ 3½ 3½, 3½ 3½ 3½

444

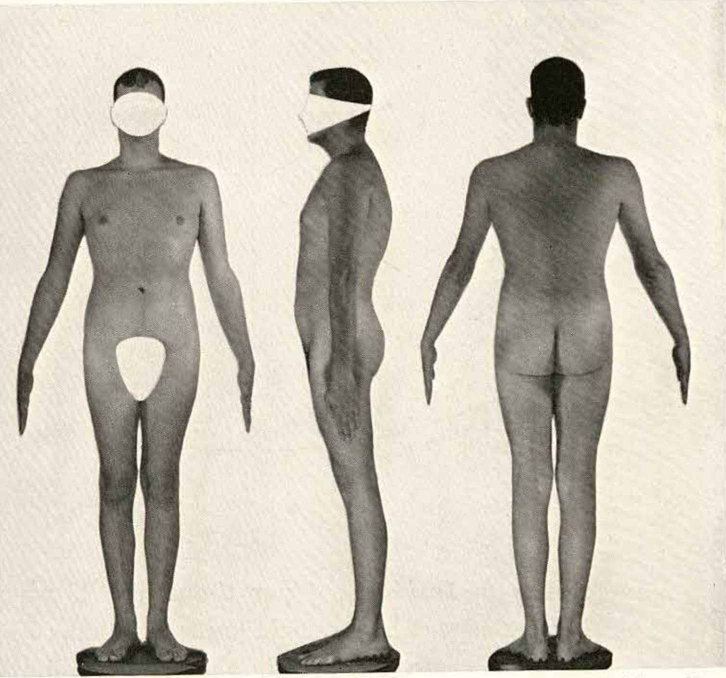


No. 769 *4 4 4 (12)* 4 4 4–4 5 3 (4 4½ 3½) 12.83 at 23
4 4 3½, 4 4½ 3½, 4 4½ 3, 4 4½ 3½, 3½ 5½ 3

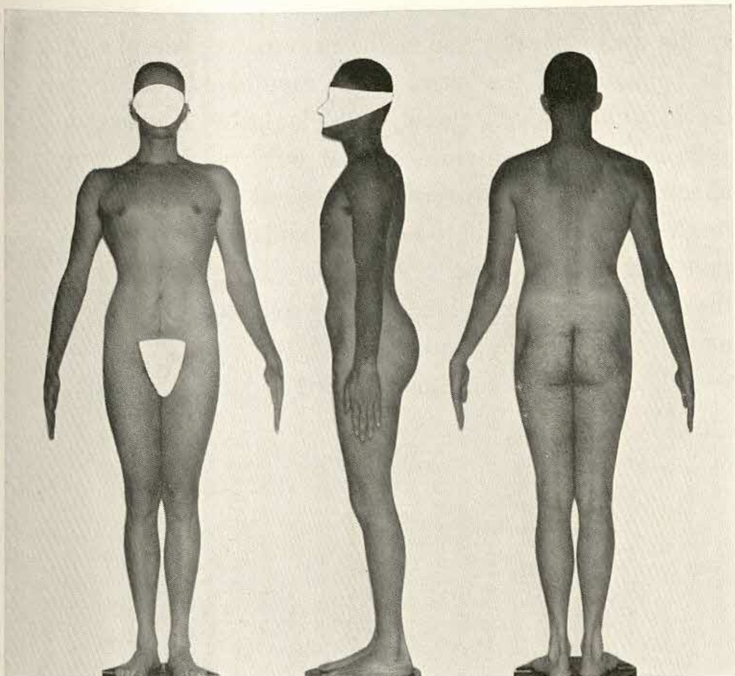


No. 770 *4 4 4 (13)* 4 4 4–4 5 3 (4 4½ 3½) 12.83 at 23
3½ 4½ 4, 4 4½ 3½, 4 4½ 3½, 4 4 4, 4 4 3½

444

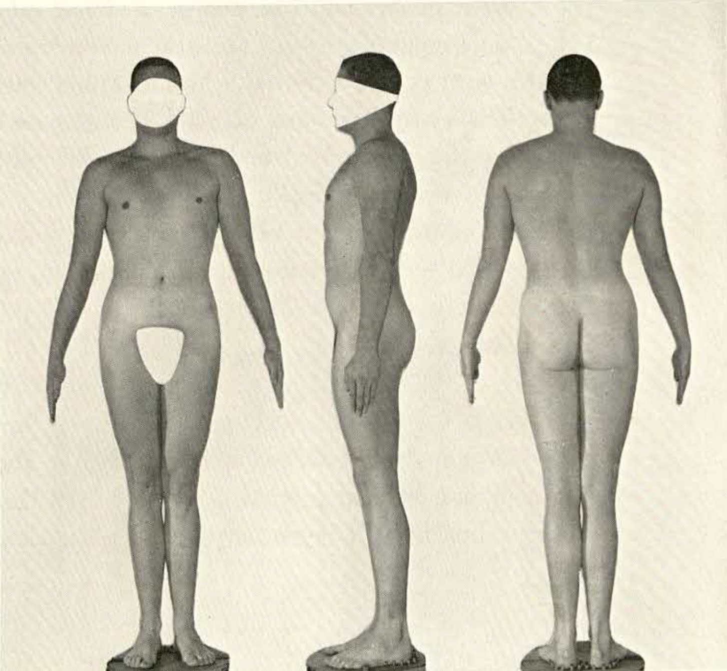


No. 771 *4 4 4 (14)* 4 4 4–5 3 4 (4½ 3½ 4) 13.05 at 20
4½ 3½ 4, 5 3 4, 5 3 4, 4½ 4 3½, 4½ 3 4½



No. 772 *4 4 4 (15)* 4 4 4–5 3 4 (4½ 3½ 4) 12.91 at 23
4 4 4, 4½ 4 3½, 4½ 3½ 4, 4½ 3½ 4, 5 3 4

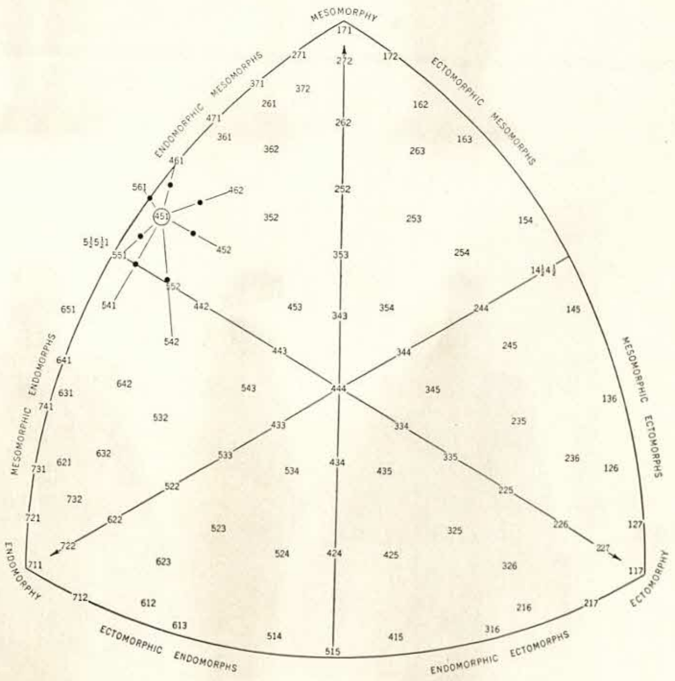
444

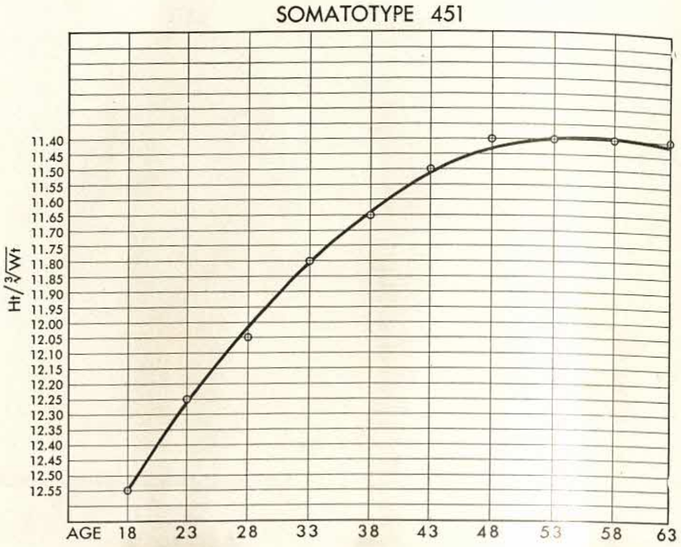


No. 773 *4 4 4 (16)* 4 4 4–5 4 3 (4½ 4 3½) 12.80 at 23
4 4 3½, 4 5 2½, 4½ 4 3½, 4½ 4 3½, 4½ 4 3½

26. BULLS

Somatotype 4 5 1 *(Endomorphic mesomorphy at extreme ectopenia, 10-level.) Aberdeen Angus bull. A black beefmaker from Scotland, with short legs and neck, and a short broad head. Named with perverse Scotch humor after Angus, a Gaelic god of dalliance whose harp had so sweet a tone that all who heard must follow. Nos. 775–802.*





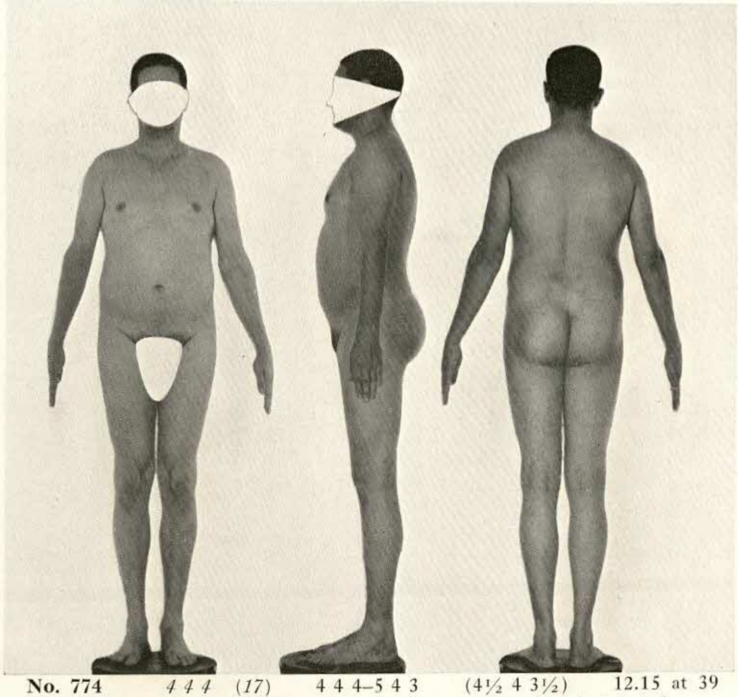
Weight for Age and Height

Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	214	230	243	256	267	278	282	284	284	282
74	205	221	234	246	256	267	271	273	273	271
73	197	212	225	236	246	256	261	262	262	261
72	190	204	216	227	236	246	251	252	252	251
71	181	195	207	217	226	235	240	241	241	240
70	174	187	198	208	217	225	230	231	231	230
69	167	179	190	200	208	216	221	222	222	221
68	160	171	182	191	199	207	212	213	213	212
67	153	164	173	182	190	198	202	203	203	202
66	146	156	166	174	181	189	193	194	194	193
65	139	149	158	166	173	180	184	185	185	184
64	133	142	151	159	165	172	176	176	176	176
63	127	136	144	151	157	164	168	168	168	168
62	121	130	137	144	150	156	160	161	161	160
61	115	123	130	137	143	149	153	153	153	153

Rarity 3. Incidence 4 per thousand. If we moved into the edge of heavyweight territory with the 3 6 1, we are now camped deeply in that borderland with his cousin the 4 5 1. This is a chunky somatotype, usually short, often of inexhaustible energy, and like all of the ectopenic somatotypes who are also mesomorphic, frequently seen prematurely bald. Mesomorphic ectopenes, with their enormous store of vital energies and their meager surface exposure, tend to find it difficult to get themselves tired out, especially in flat country where there are no mountains to climb. In cities these compact bald-headed men take naturally to night clubs, and the theater has graciously named one of its choicest rows in their honor.

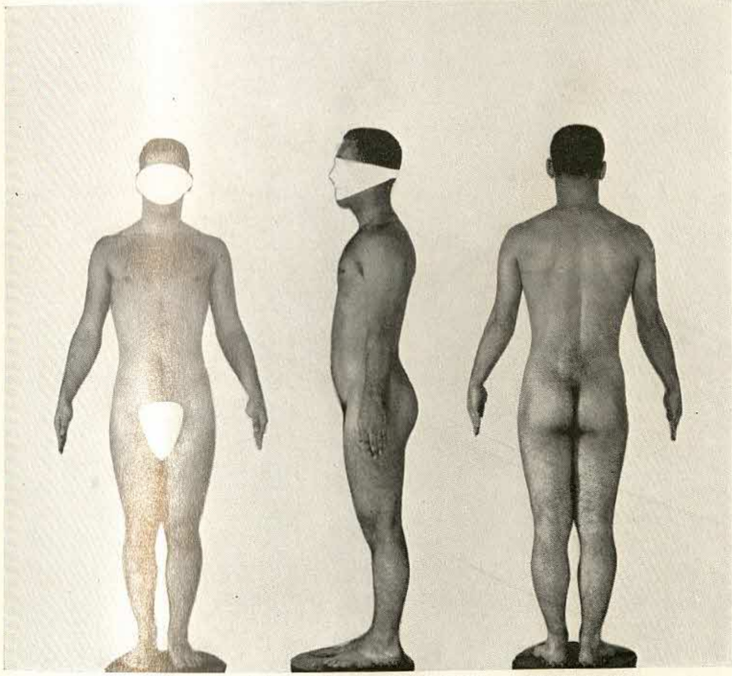
An average 4 5 1 of five feet seven inches, weighing just over 150 pounds in college, will cross 200 at about 45 but will then hold at around that level until the early sixties, when he will begin, apparently quite slowly, to drop back a little. This seems to be a somatotype of at least average longevity despite the not inconsiderable load which so massive and active an organism must necessarily put on its cardiovascular system.

In the discussion of some of the extreme ectomorphs at the beginning of the series it was mentioned that they are biologically overexposed, or biologically extraverted —turned outward to surface, as it were, and therefore almost necessarily *intro*verted in a social sense. With so much surface they tend to be overstimulated and need to protect themselves from it. With the extreme ectopenes the converse appears to hold. Having so little surface they may be biologically underexposed, biologically introverted, and therefore inclined toward social extraversion.

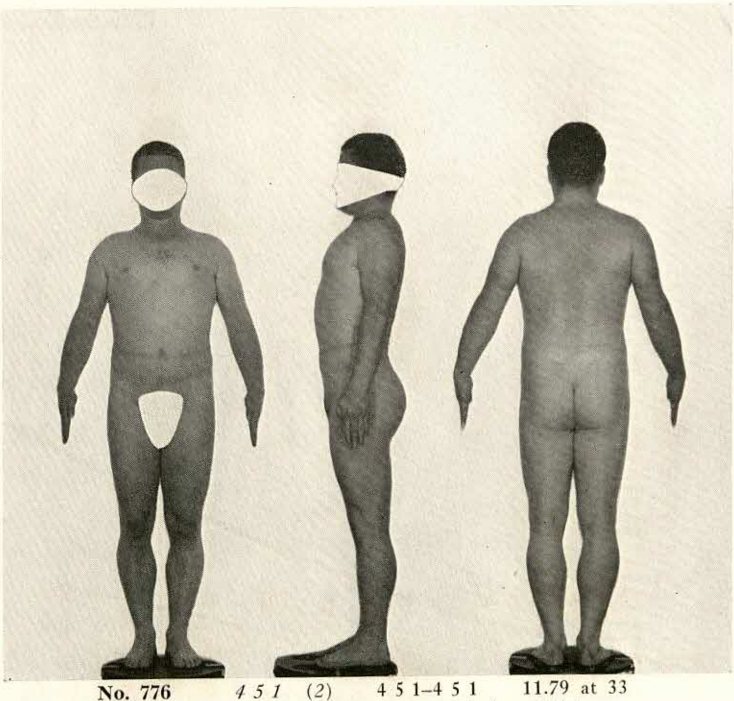


No. 774 *4 4 4* (*17*) 4 4 4–5 4 3 (4½ 4 3½) 12.15 at 39
4½ 4 3½, 4½ 4 2½, 4½ 3½ 3, 4½ 4 2½, 3½ 3½ 5

451

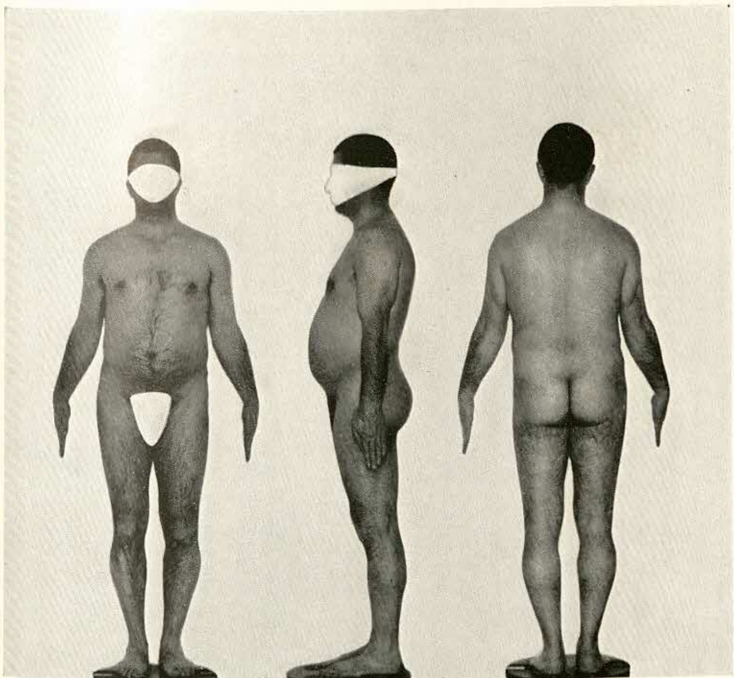


No. 775 *4 5 1* (*1*) 4 5 1–4 5 1 12.24 at 22
4 5 1, 4 5 1, 4 5 1, 3½ 5 1½, 4 5½ 1

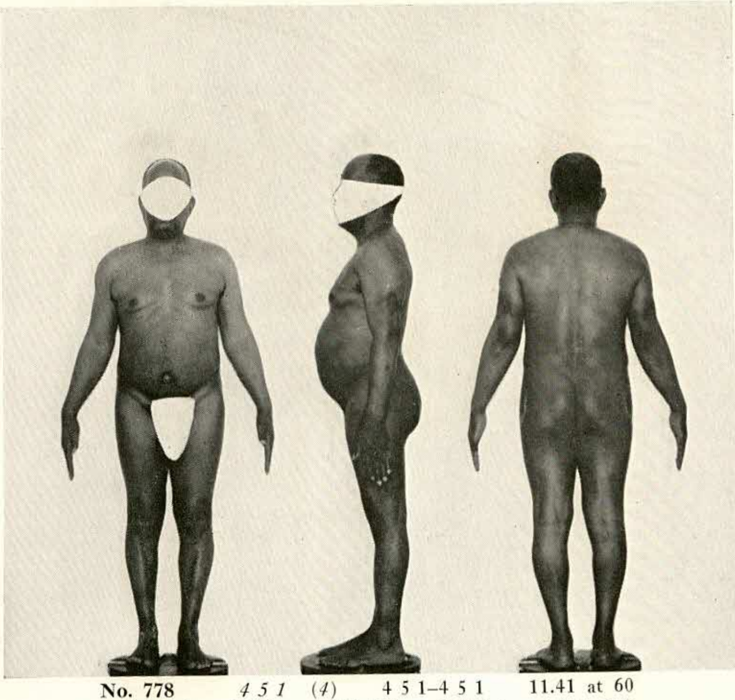


No. 776 *4 5 1* (*2*) 4 5 1–4 5 1 11.79 at 33
4 5 1, 4 5 1, 4½ 4½ 1, 4 5 1½, 4 5 1

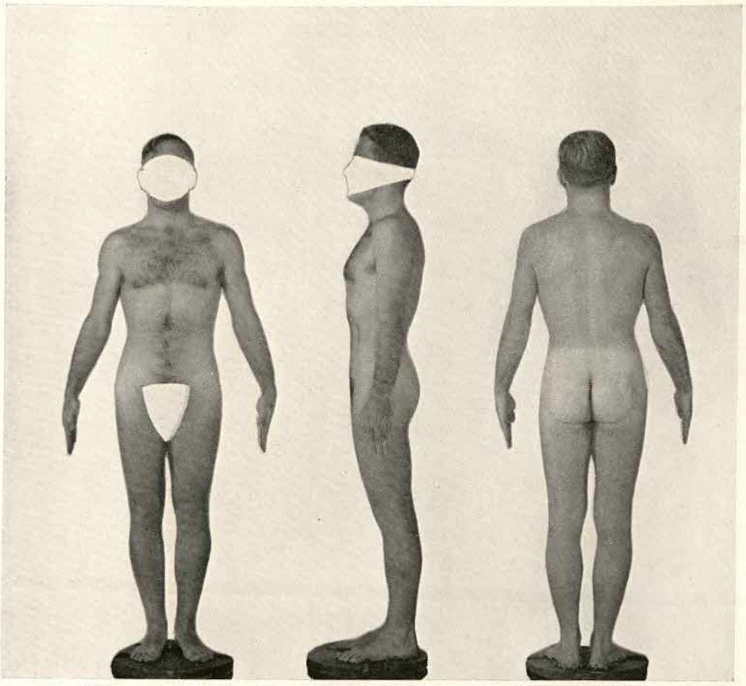
451



No. 777 *4 5 1* (*3*) 4 5 1–4 5 1 11.63 at 39
4 5 1, 4 5½ 1½, 4 5 1, 4 5 1, 4 5 1½

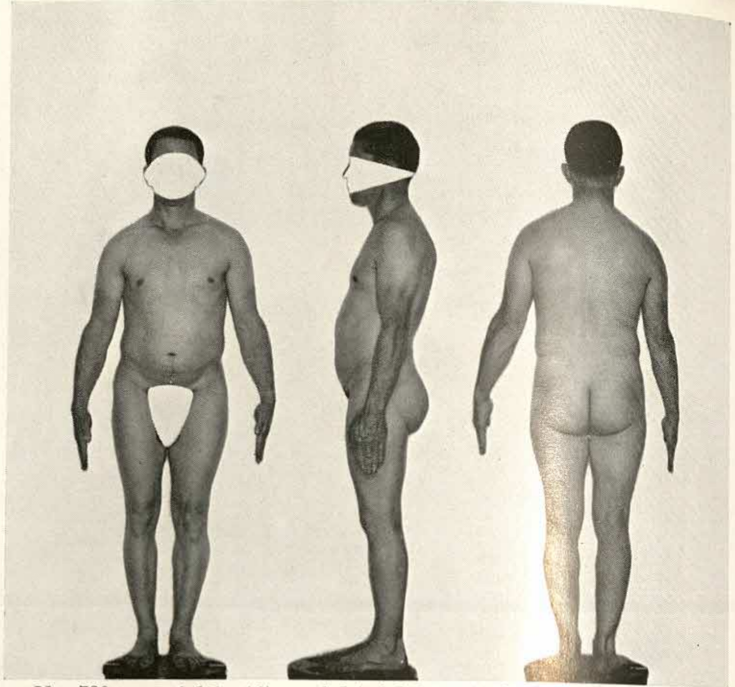


No. 778 *4 5 1* (*4*) 4 5 1–4 5 1 11.41 at 60
3½ 5½ 1, 4 5 1, 4 4½ 1½, 4 5½ 1, 4 4½ 1½

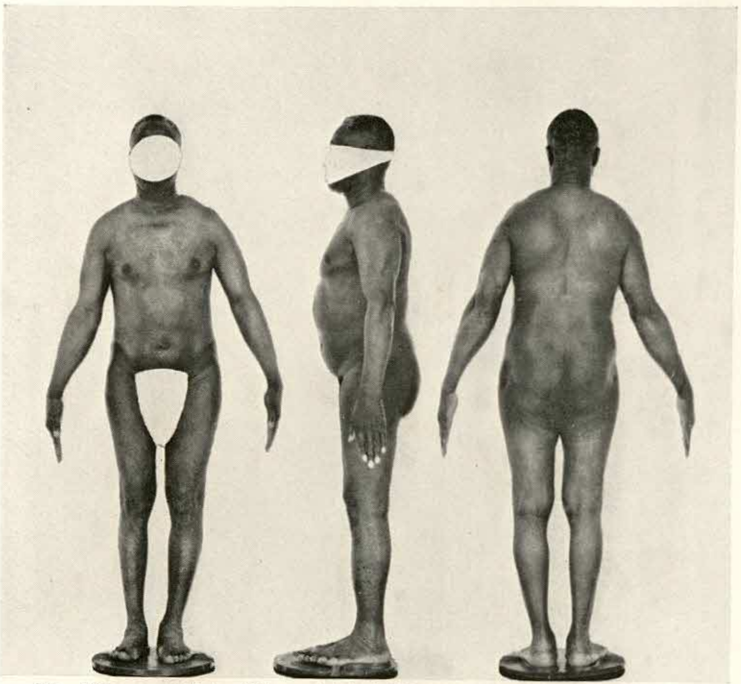


No. 779 *4 5 1* (*5*) 4 5 1–4 5 2 (4 5 1½) 12.42 at 20
4 5 1½, 4 5 1½, 4 4½ 1½, 3½ 5 2, 4 4½ 1½

451

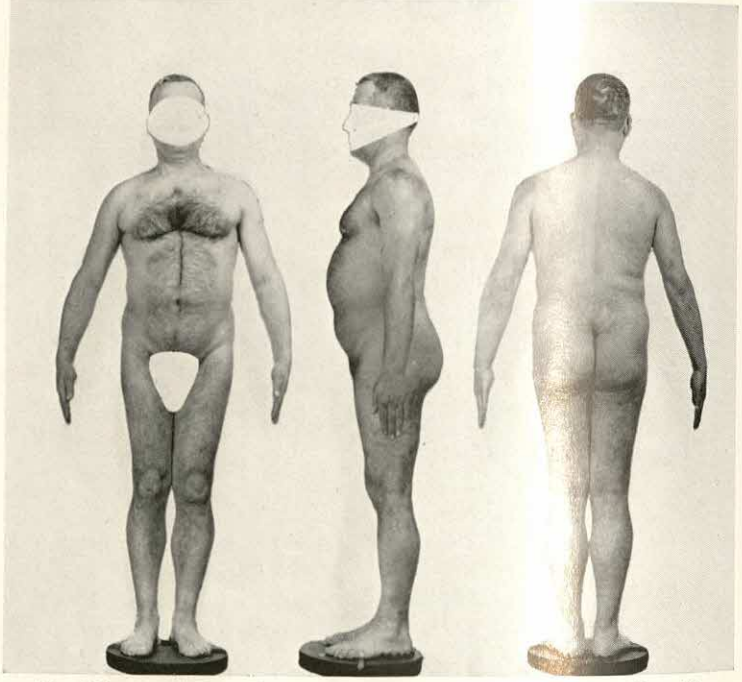


No. 780 *4 5 1* (*6*) 4 5 1–4 5 2 (4 5 1½) 11.94 at 33
3½ 5 1½, 4 5½ 1, 4 5½ 1½, 4 5 1, 3½ 5 1½

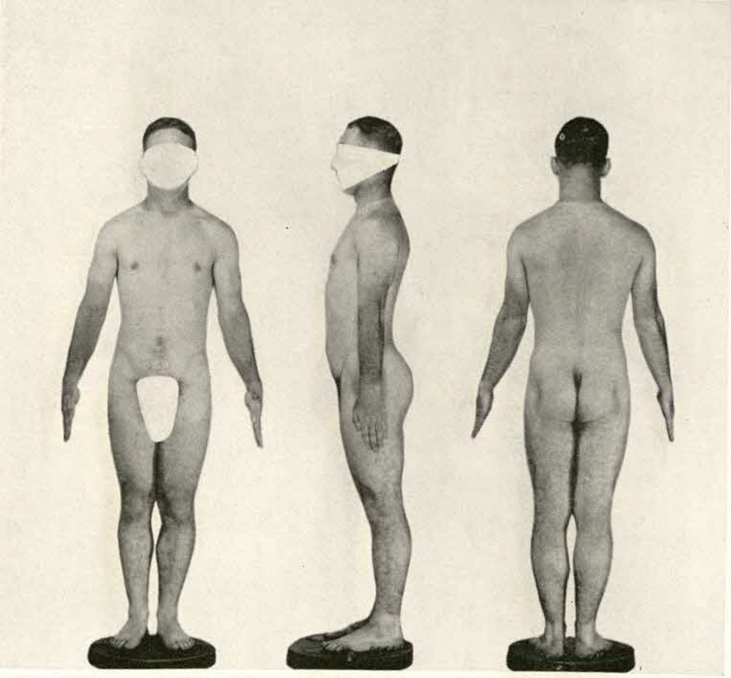


No. 781 *4 5 1* (*7*) 4 5 1–4 5 2 (4 5 1½) 11.54 at 52
4 5 1, 4 5 1, 3½ 5 2½, 4 5 1, 3½ 4½ 2

451

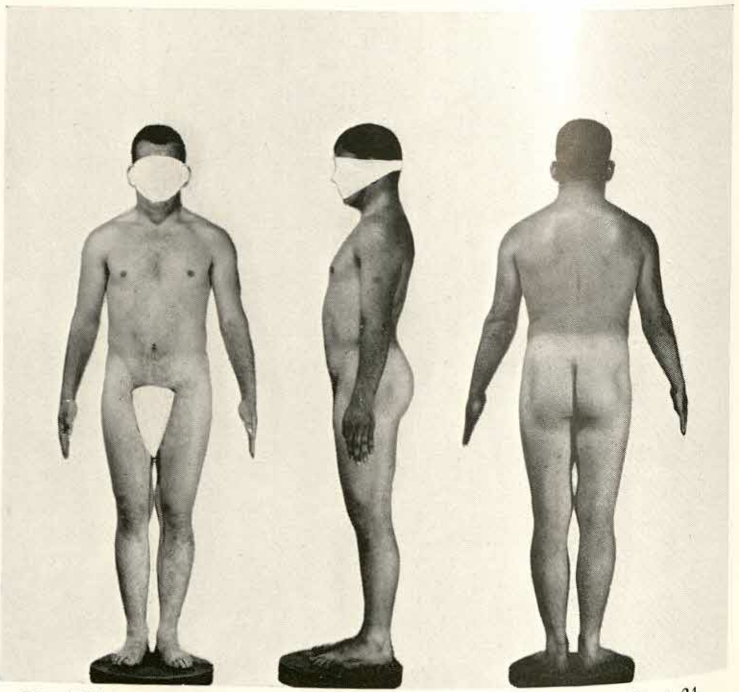


No. 782 *4 5 1* (*8*) 4 5 1–4 5 2 (4 5 1½) 11.53 at 56
4½ 5 1½, 4 4½ 1½, 4 5 1½, 4½ 4½ 1½, 4 5 1½

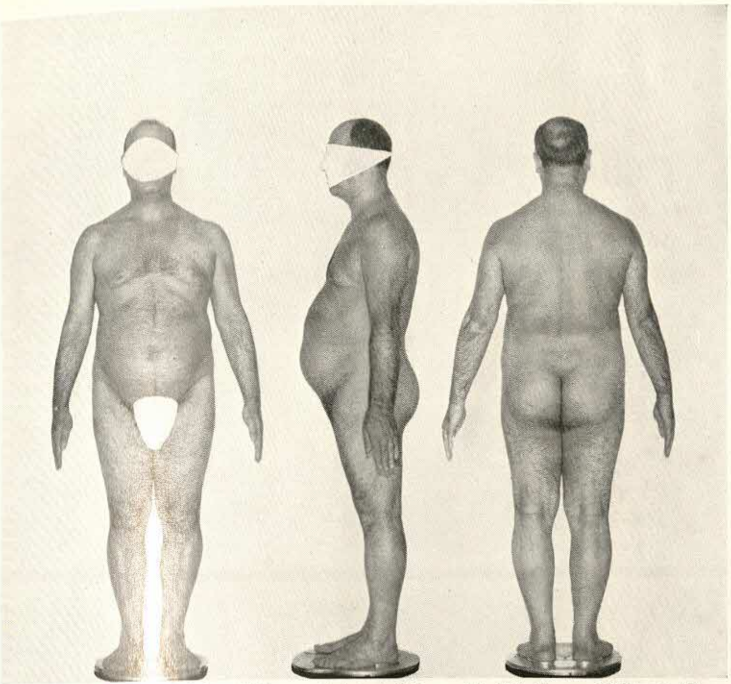


No. 783 *4 5 1* (*9*) 4 5 1–4 6 1 (4 5½ 1) 12.19 at 20
4 5½ 1, 4 5½ 1, 4 5 1, 4 5½ 1½, 4½ 5½ 1

451

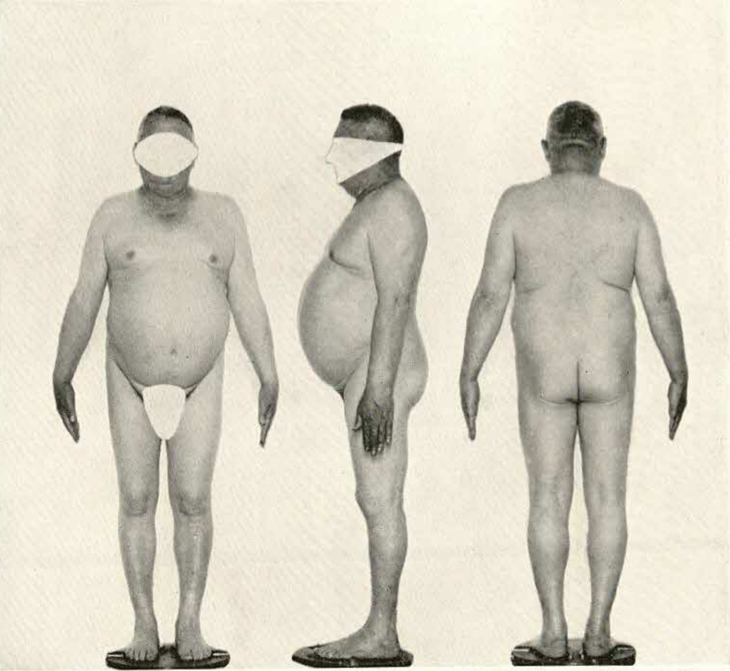


No. 784 *4 5 1* (*10*) 4 5 1–4 6 1 (4 5½ 1) 12.01 at 24
4½ 6 1, 4 5½ 1, 4 5 1½, 4 5½ 1, 4 5½ 1½

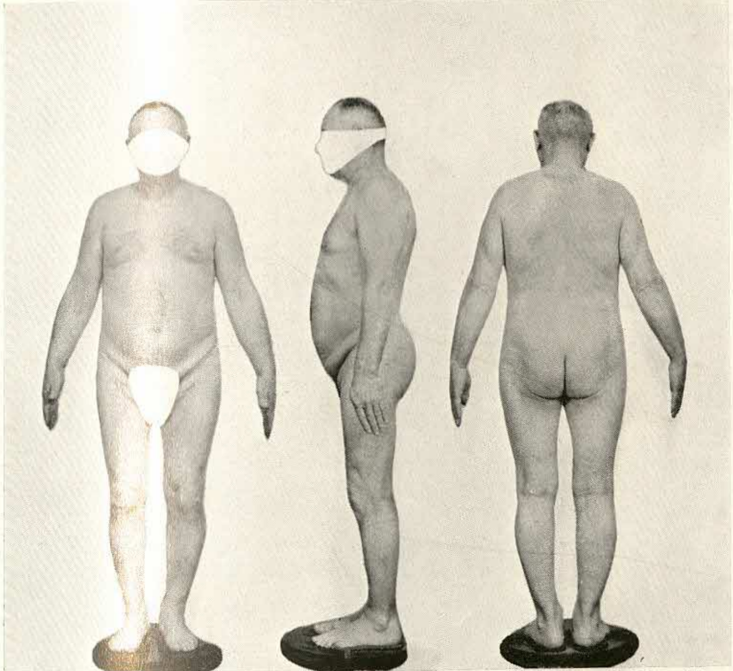


No. 785 *4 5 1* (*11*) 4 5 1–4 6 1 (4 5½ 1) 11.21 at 47
4 5½ 1½, 4 5½ 1, 3½ 5½ 1, 4 5½ 1, 4 5½ 1

451

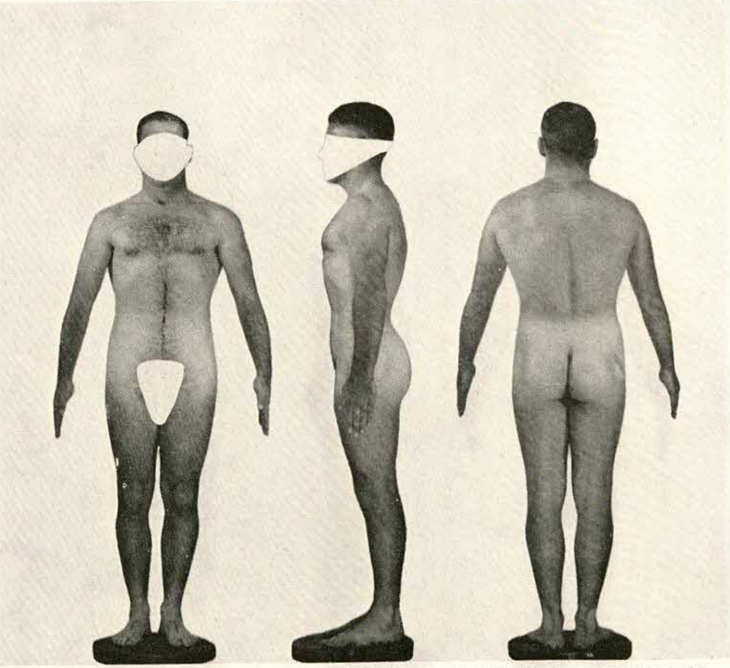


No. 786 *4 5 1* (*12*) 4 5 1–4 6 1 (4 5½ 1) 11.20 at 53
4½ 5½ 1, 4 5½ 1, 4 5½ 1, 4½ 5½ 1, 4 5½ 1½

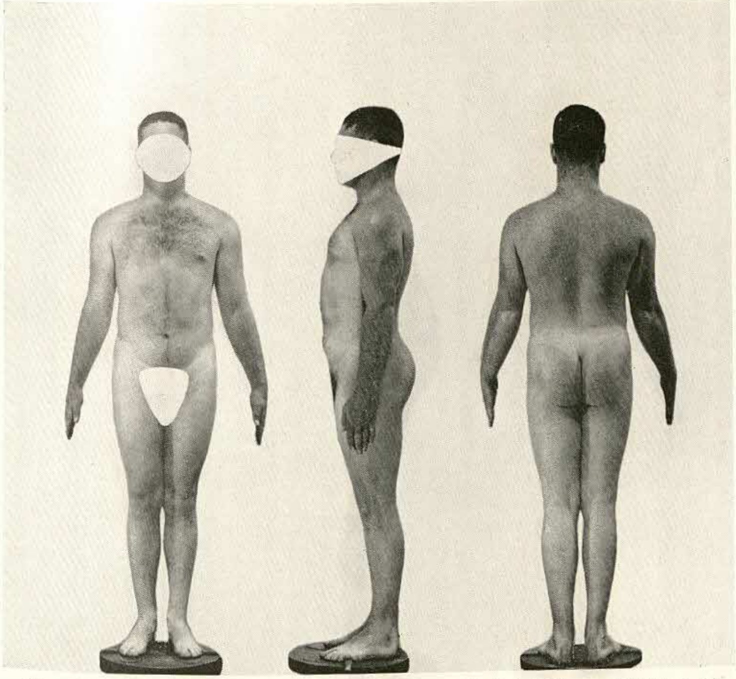


No. 787 *4 5 1* (*13*) 4 5 1–4 6 1 (4 5½ 1) 11.35 at 67
4 5 1, 4 5½ 1, 4 5½ 1, 4 5½ 1, 3½ 5½ 1

451

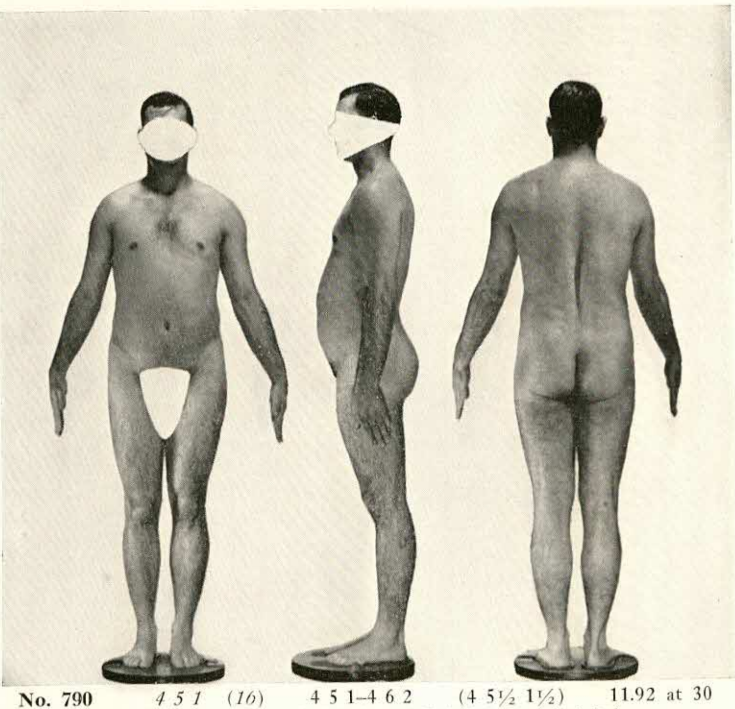


No. 788 *4 5 1* (*14*) 4 5 1–4 6 2 (4 5½ 1½) 12.35 at 20
4 5½ 1½, 4 5½ 1, 4 5½ 1½, 3½ 5½ 1½, 4 5½ 1½

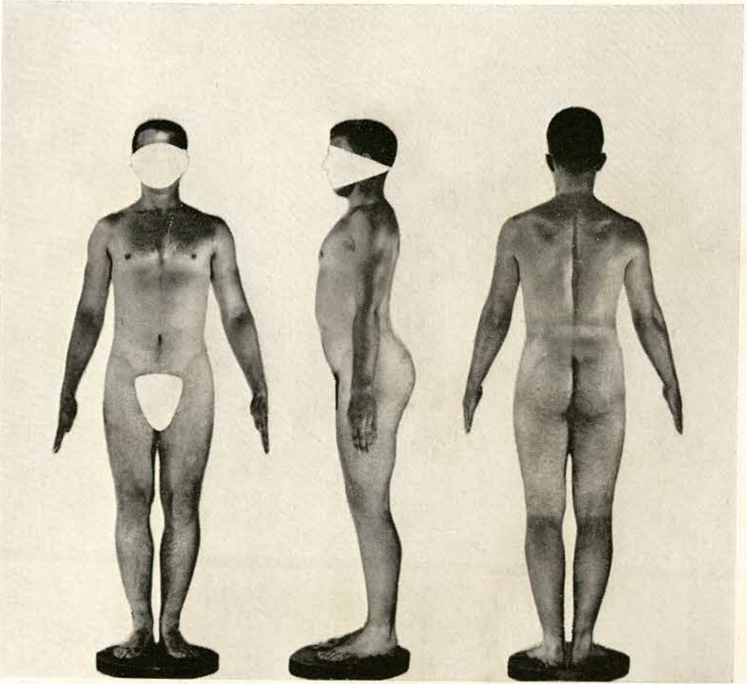


No. 789 *4 5 1* (*15*) 4 5 1–4 6 2 (4 5½ 1½) 12.17 at 23
4 5½ 1½, 4 5½ 1½, 4 6 1, 4 5½ 1½, 5 4½ 2

451



No. 790 *4 5 1* (*16*) 4 5 1–4 6 2 (4 5½ 1½) 11.92 at 30
4 5 2, 4 5 2, 4 5½ 1½, 4 5½ 1½, 4 5½ 1½



No. 791 *4 5 1* (*17*) 4 5 1–5 4 1 (4½ 4½ 1) 12.32 at 20
4½ 4½ 1, 4½ 4½ 1, 4½ 4½ 1½, 4½ 4 1½, 4½ 4½ 1

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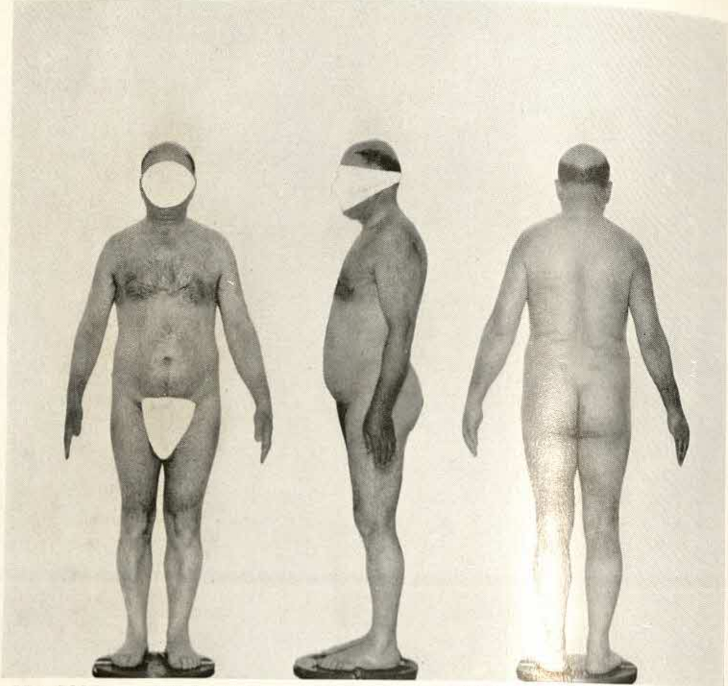
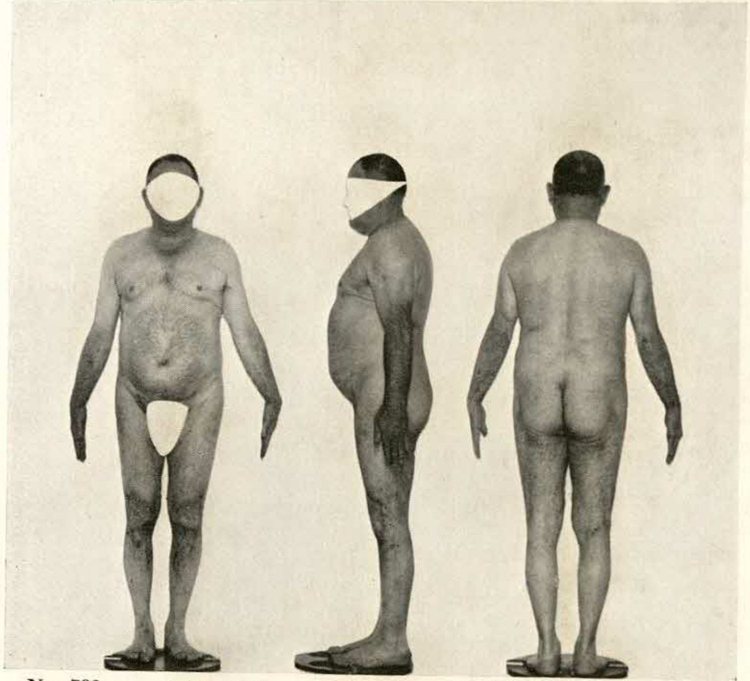
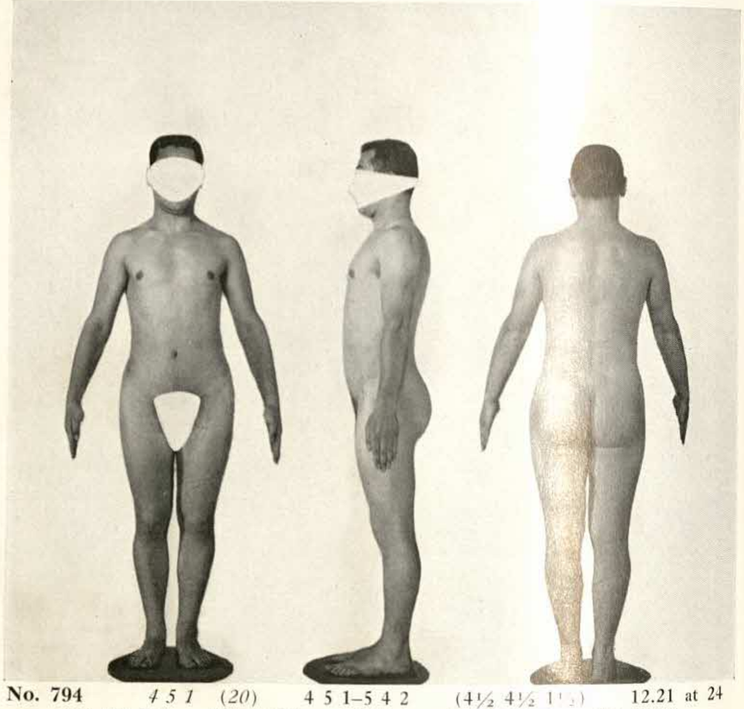


No. 792 *4 5 1* (*18*) 4 5 1–5 4 1 (4½ 4½ 1) 11.30 at 58
4½ 4½ 1, 4½ 4½ 1, 4½ 4 1½, 4½ 4½ 1, 4½ 4½ 1

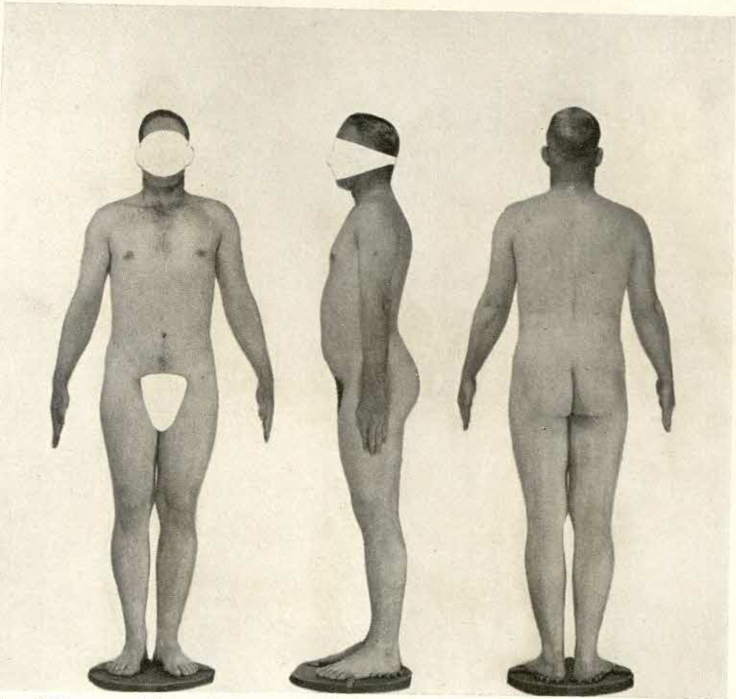


No. 793 *4 5 1* (*19*) 4 5 1–5 4 1 (4½ 4½ 1) 11.34 at 64
4½ 4½ 1, 4½ 4½ 1, 4½ 5 1, 4½ 4½ 1, 4½ 4 1½

451

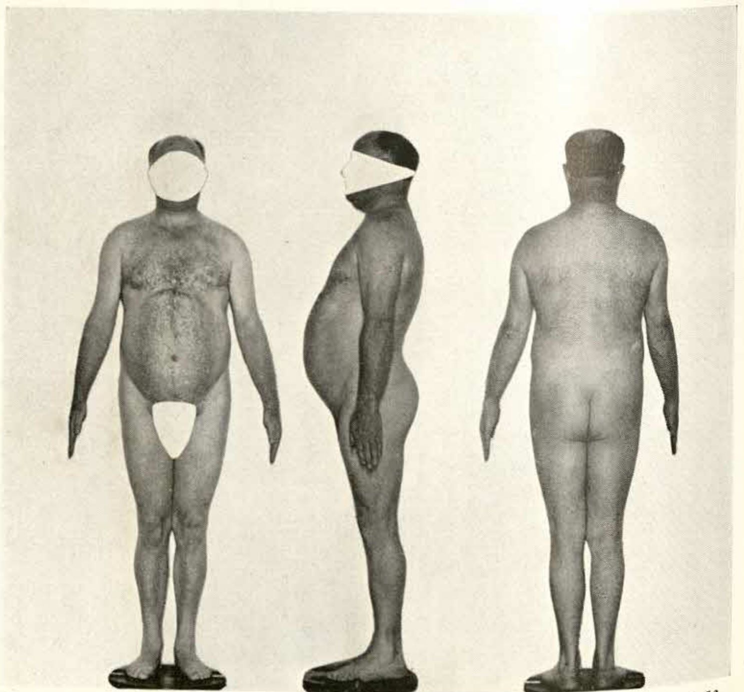


No. 794 *4 5 1* (*20*) 4 5 1–5 4 2 (4½ 4½ 1½) 12.21 at 24
4½ 4½ 1½, 4½ 4 1½, 4 5 1½, 4½ 4½ 1½, 4½ 5 1½

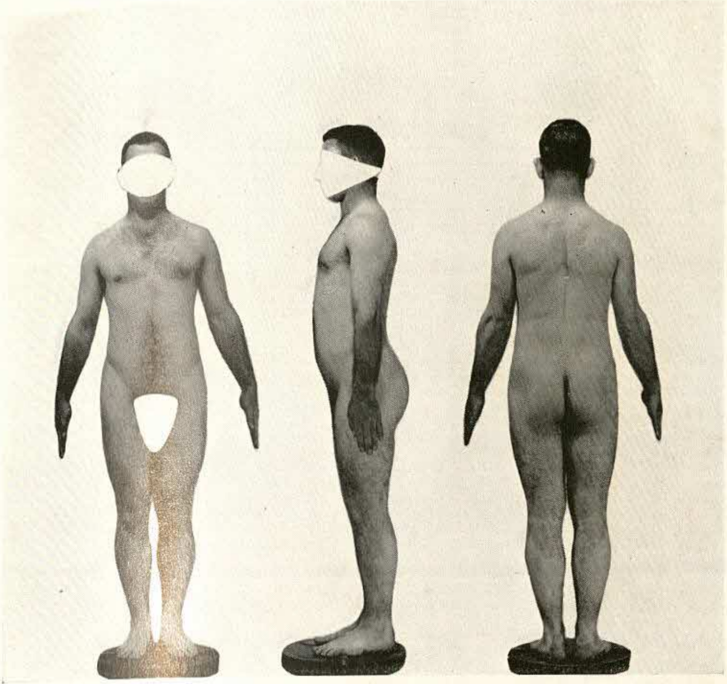


No. 795 *4 5 1* (*21*) 4 5 1–5 4 2 (4½ 4½ 1½) 12.01 at 28
4½ 4½ 1½, 4½ 4½ 1½, 4½ 4½ 1½, 4½ 4½ 1½, 4½ 5 1½

451

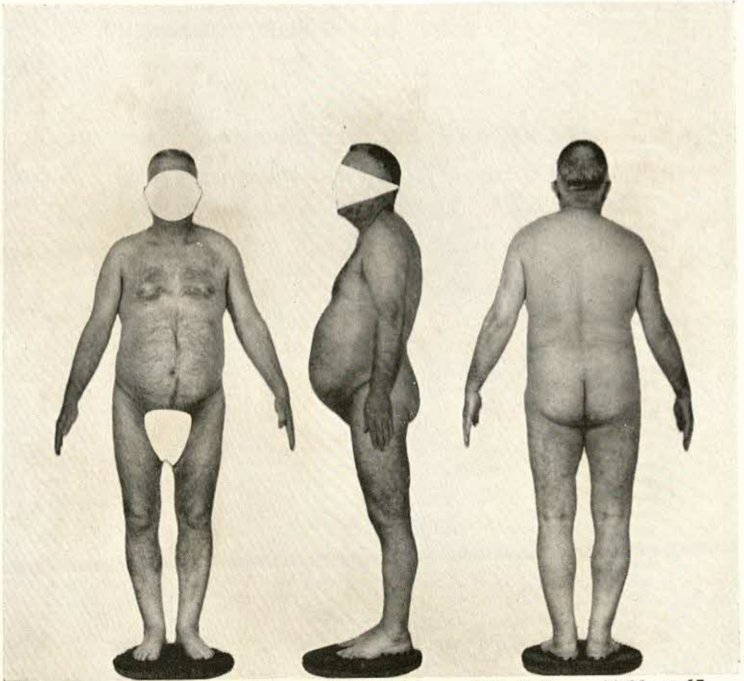


No. 796 *4 5 1* (*22*) 4 5 1–5 4 2 (4½ 4½ 1½) 11.44 at 53
5 4 1, 4½ 5 1½, 4½ 5 1½, 4½ 4½ 1½, 4½ 4 2

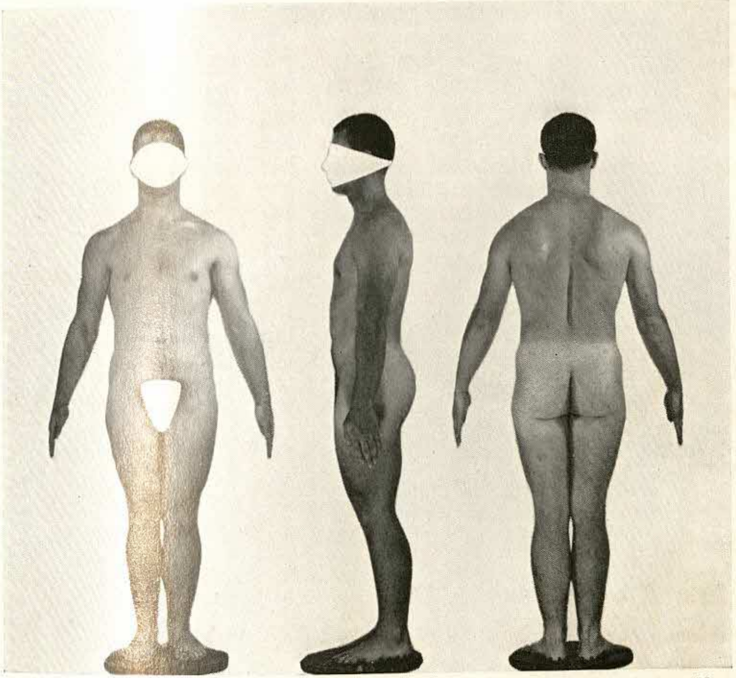


No. 797 *4 5 1* *(23)* 4 5 1–5 5 1 (4½ 5 1) 12.00 at 21
4 5 1½, 4 5 1, 4½ 5 1, 4½ 4½ 1, 4½ 5½ 1

451

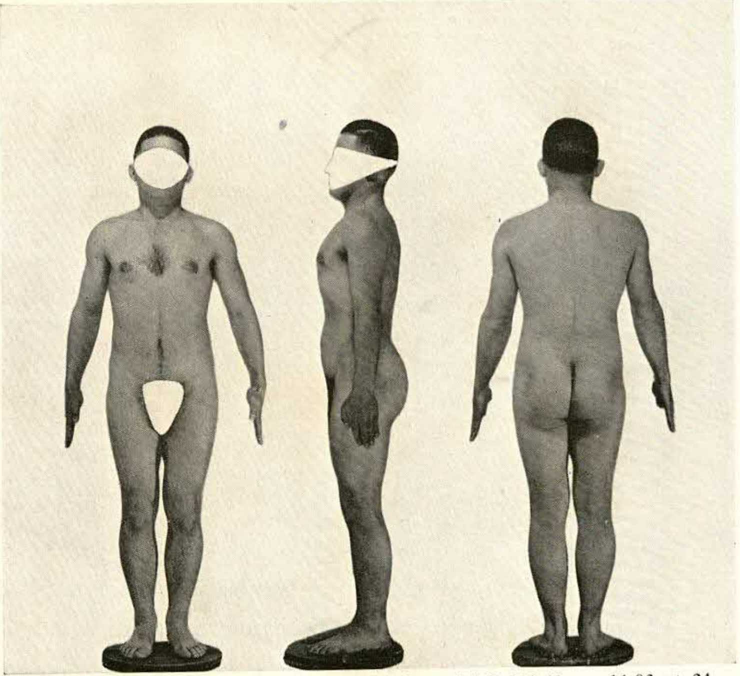


No. 798 *4 5 1* *(24)* 4 5 1–5 5 1 (4½ 5 1) 11.20 at 57
4½ 5 1, 4½ 4½ 1, 4½ 5 1, 4½ 5 1, 3½ 5 1½

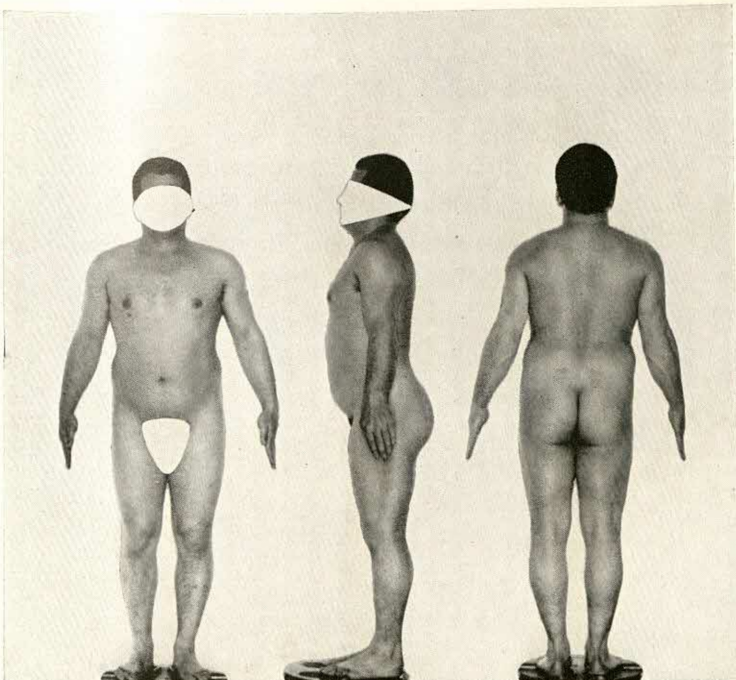


No. 799 *4 5 1* *(25)* 4 5 1–5 6 1 (4½ 5½ 1) 12.10 at 19
4½ 5½ 1, 4 6 1, 4 6 1, 4½ 5½ 1, 5½ 5 1

451

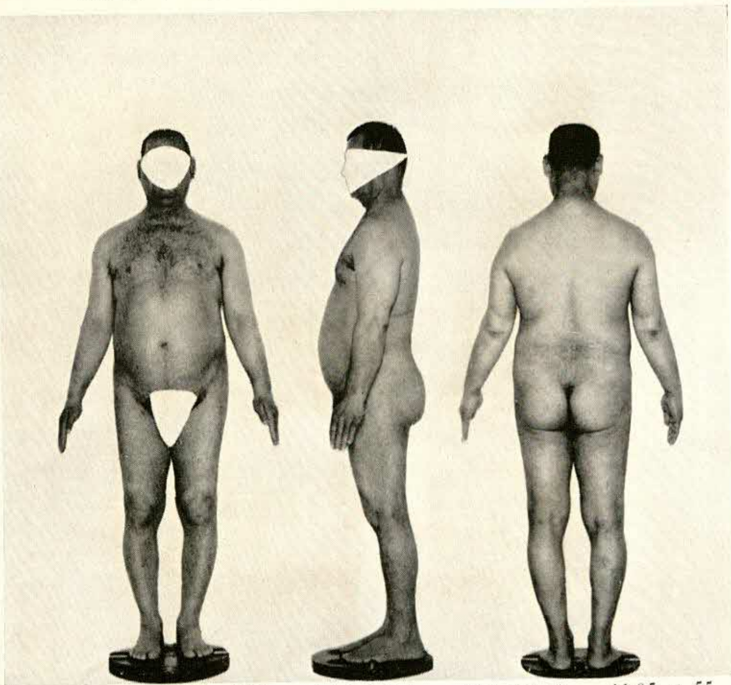


No. 800 *4 5 1* *(26)* 4 5 1–5 6 1 (4½ 5½ 1) 11.83 at 24
4½ 5½ 1, 4½ 5½ 1, 4 5 1½, 4 5½ 1½, 4½ 5½ 1



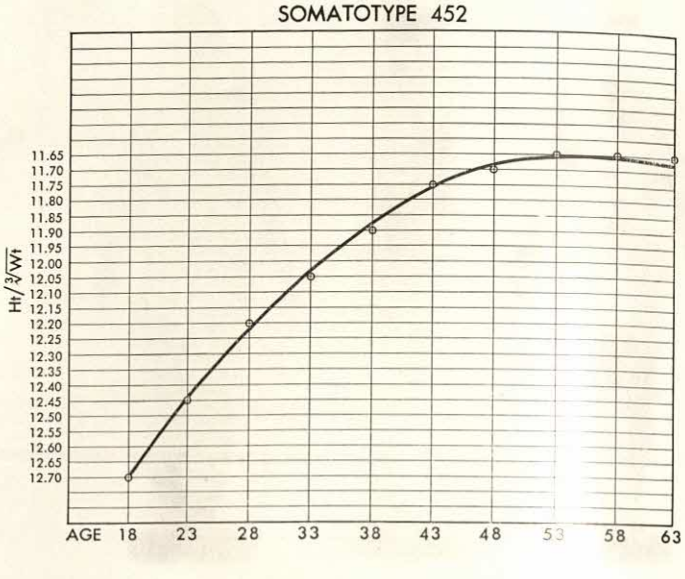
No. 801 *4 5 1* *(27)* 4 5 1–5 6 1 (4½ 5½ 1) 11.11 at 38
4½ 5½ 1, 4½ 5½ 1, 4½ 5½ 1, 4½ 5½ 1, 4½ 5½ 1

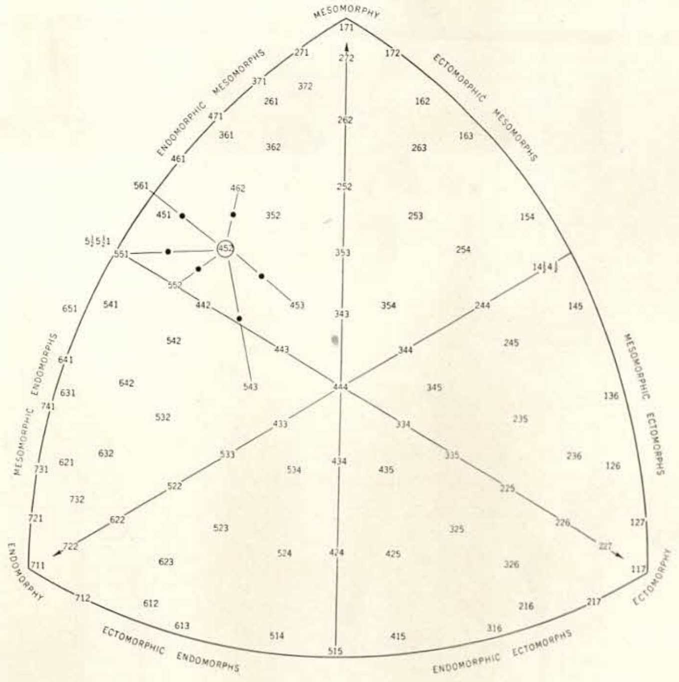
451



No. 802 *4 5 1* *(28)* 4 5 1–5 6 1 (4½ 5½ 1) 11.05 at 55
4½ 5½ 1½, 4½ 5½ 1½, 4½ 5½ 1, 5 5 1, 4 5½ 1

Somatotype 4 5 2 *(Endomorphic mesomorphy, 11-level.) Hereford bull. The common white-face. A red and white beefmaker from Herefordshire, longer legged and rangier than the Angus but an essentially heavy, beefy fellow. Nos. 803–823.*





Weight for Age and Height

Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	206	218	232	243	251	260	263	265	265	264
74	198	210	223	234	241	250	252	254	254	254
73	190	201	214	225	232	240	242	244	244	244
72	183	193	206	216	223	231	233	235	235	235
71	175	185	197	207	213	221	223	225	225	225
70	168	178	189	198	205	212	214	216	216	216
69	161	170	181	190	196	203	205	207	207	207
68	154	163	173	182	188	194	196	198	198	198
67	147	156	165	173	179	186	187	189	189	188
66	140	149	158	166	171	177	179	181	181	181
65	134	142	151	159	164	169	171	173	173	172
64	128	135	144	151	156	162	163	165	165	165
63	122	129	137	144	149	154	156	157	157	157
62	117	123	131	137	142	147	148	150	150	150
61	111	117	124	130	135	140	141	143	143	143

Rarity 1. Incidence 48 per thousand. Fifth commonest somatotype, seen twelve times more frequently than the 4 5 1, and if you are a married woman the chances are about one in twenty that you are married to one. Actually the chances are better than that for the 4 5 2 is inclined to be an easy-to-marry, rather conventional, and viscerotonic fellow. Being viscerotonic, energetic, and not too critically cerebrotonic, he tends to live on quite intimate, friendly terms with his own most basic biological impulses. He likes good food, comfort, offspring of his own flesh, and being a mesomorph he has the energy to focus on getting these elemental things. Some of the other somatotypes we have reviewed are more inclined to develop complex or perverse personalities, and doubtless to marry less felicitously. An "educated" 2 3 5, for example, may be almost as likely to get caught by a psychoanalyst, or to bed down with some strange outlandish philosophy, as to embrace matrimonial felicity.

This somatotype tends to reach maximal weight after 50 and having reached it, tends to hold it, at least until the middle sixties. The indication for longevity thus appears to be better than average.

4 5 2's are often good examples of what some physical anthropologists have called the "Alpine" physique, or Alpine race. They tend to have broad heads, comparatively long trunks with big chests, and sturdy limbs. They are adapted to and typically like mountain country. The 4 6 2 is of course even more "Alpine," and the 5 6 1 is a still more extreme example. We see that "Alpines" really are sturdy ectopenes, with other descriptive characteristics assigned to them by various anthropologists.

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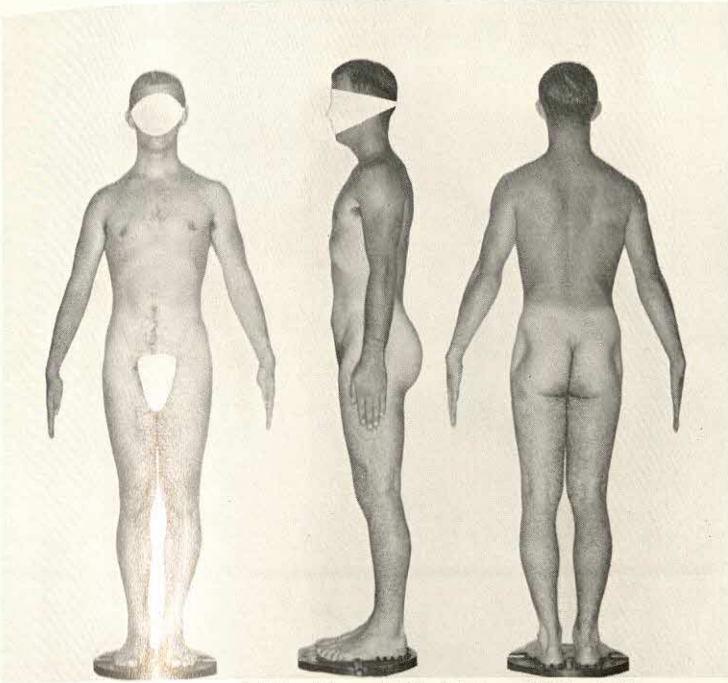
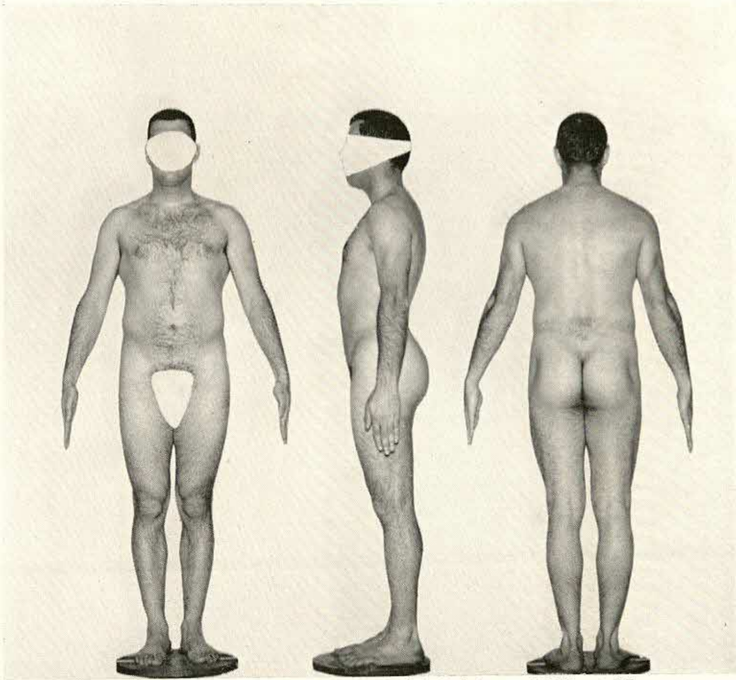


No. 803 *4 5 2 (1)* 4 5 2–4 5 2 12.68 at 19
3½ 4½ 2½, 4 5 2, 4 5 2, 4 5 2, 4½ 5 2



No. 804 *4 5 2 (2)* 4 5 2–4 5 2 12.23 at 27
4 4½ 2, 4 5½ 2, 4 5 2, 4 5 2, 4 4½ 2½

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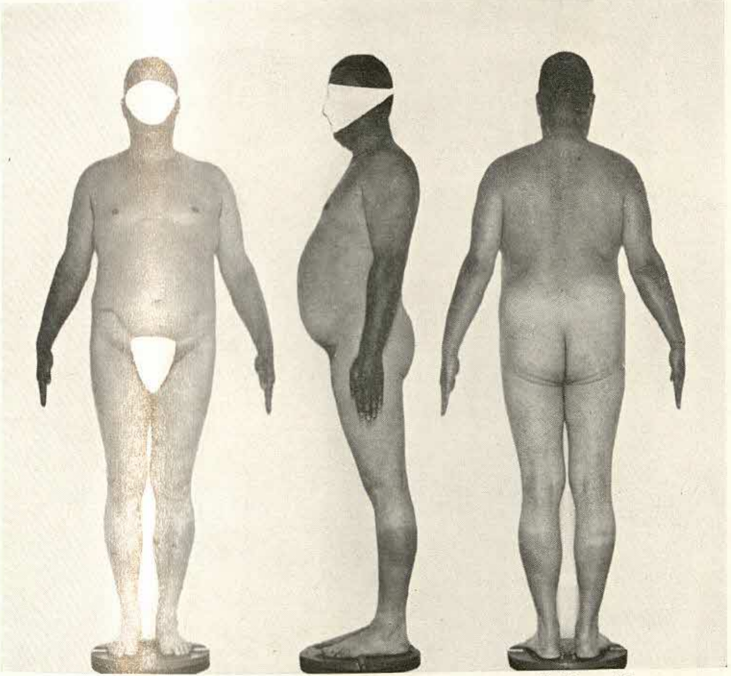
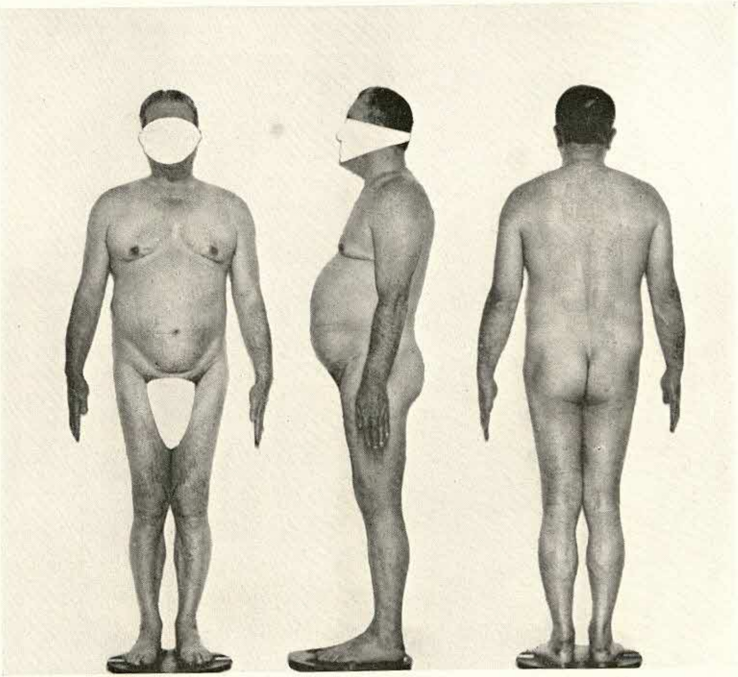
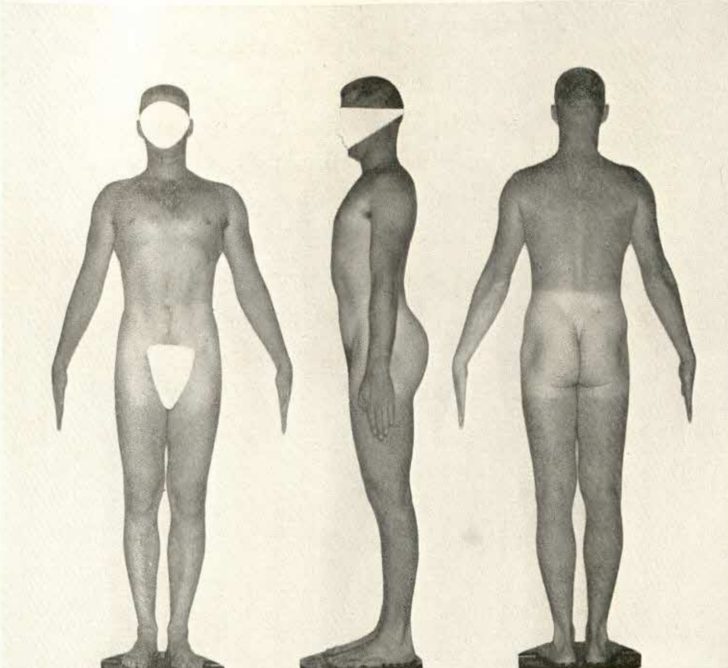


No. 805 *4 5 2 (3)* 4 5 2–4 5 2 11.65 at 52
4½ 5 2, 4 5 2, 4 4½ 2, 4½ 4½ 2, 4 5 2

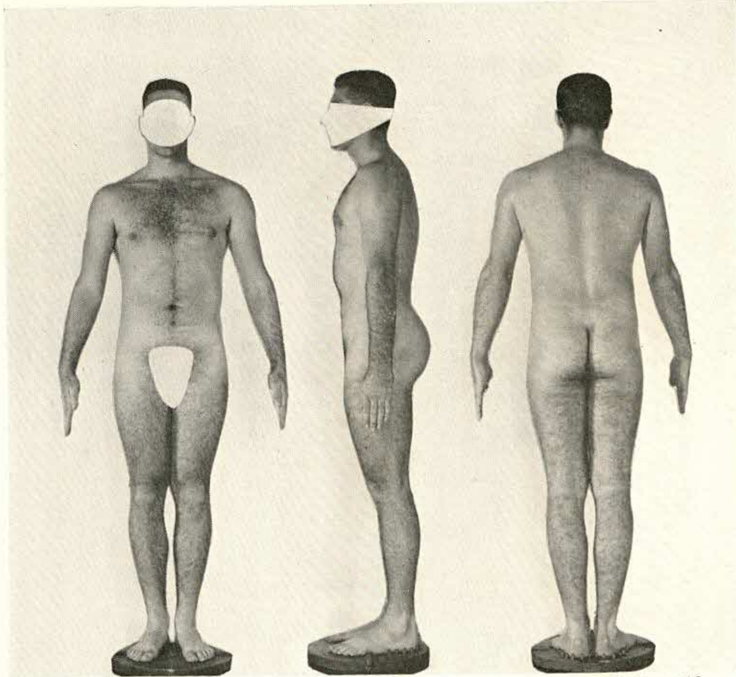


No. 806 *4 5 2 (4)* 4 5 2–4 5 2 11.69 at 62
4 5 2, 4 5½ 2, 4 4½ 2, 4 5 2, 4 5 2

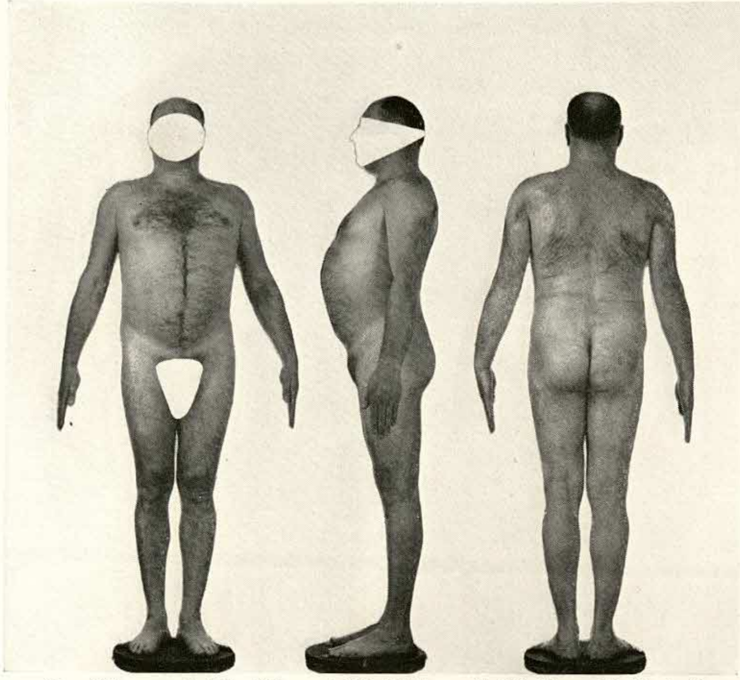
452



No. 807 *4 5 2 (5)* 4 5 2–4 5 3 (4 5 2½) 12.56 at 22
3½ 4½ 3, 4 5 2½, 4 5 2½, 4 5 2½, 4 5 2½



No. 808 *4 5 2 (6)* 4 5 2–4 6 2 (4 5½ 2) 12.50 at 19
3½ 5 2½, 4 5½ 2, 4 5 2, 4 5½ 2, 4½ 5½ 2



No. 809 *4 5 2* (*7*) 4 5 2–4 6 2 (4 5½ 2) 11.54 at 45
4 6 1, 4 5½ 2, 4 5½ 2, 4 5½ 2, 3½ 5 3½

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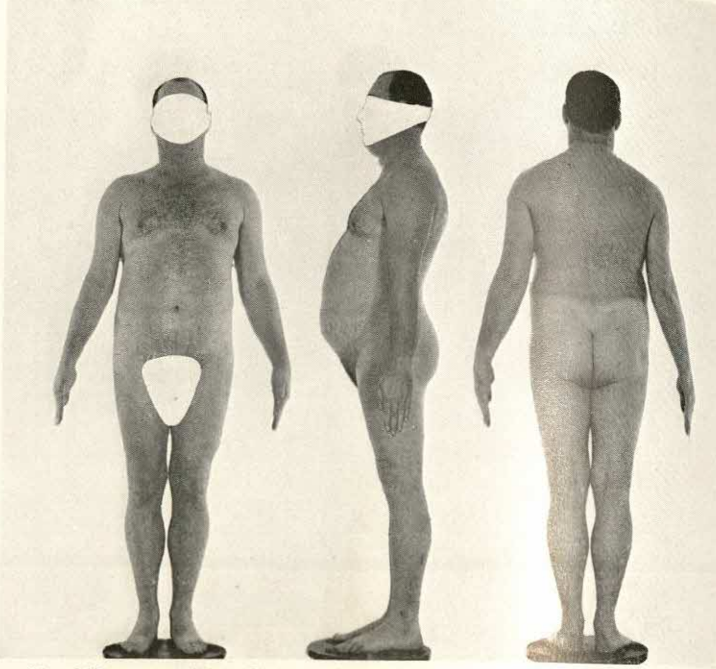
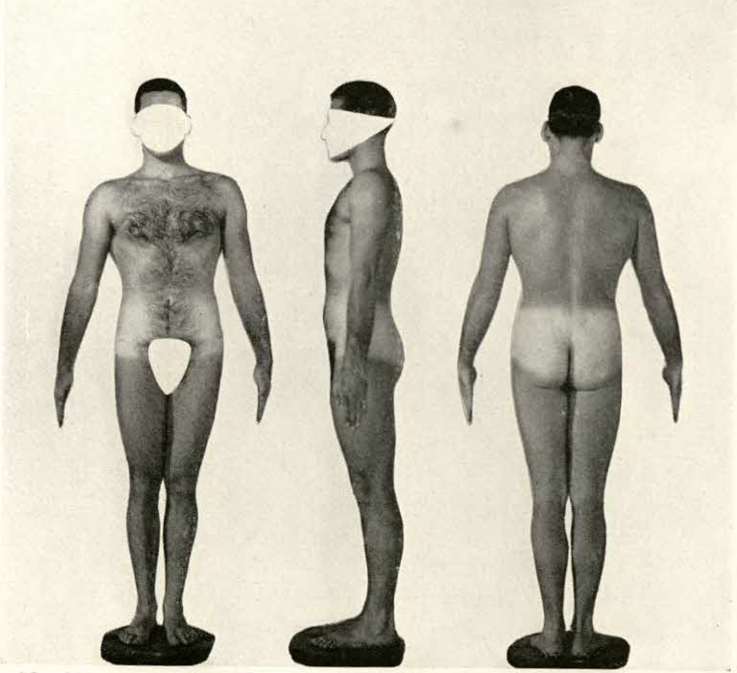


No. 810 *4 5 2* (*8*) 4 5 2–4 6 2 (4 5½ 2) 11.48 at 47
4 5½ 1½, 4 5½ 2, 4 5½ 1½, 4 5½ 2, 4 5½ 2



No. 811 *4 5 2* (*9*) 4 5 2–5 4 3 (4½ 4½ 2½) 12.60 at 20
4½ 4½ 2½, 4½ 5 2½, 4½ 4½ 2½, 4½ 4 2½, 5 4 2½

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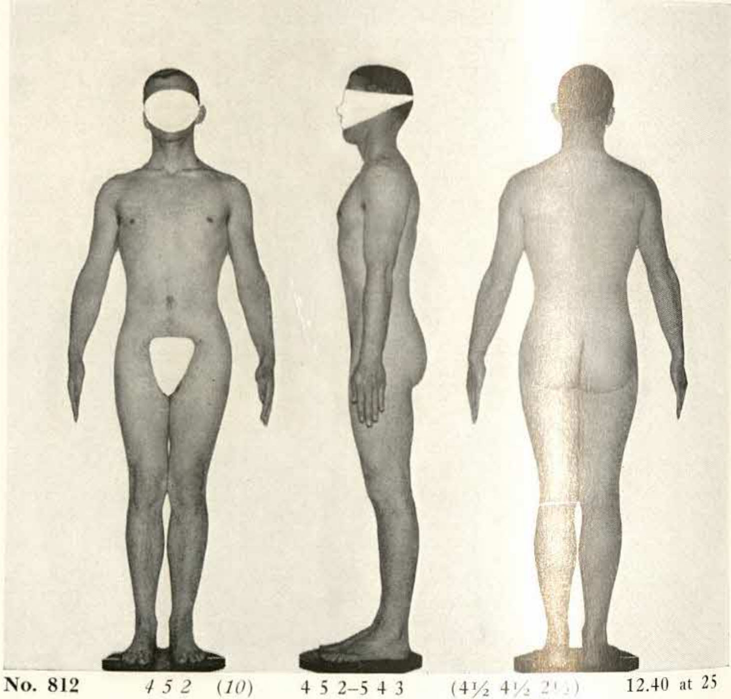
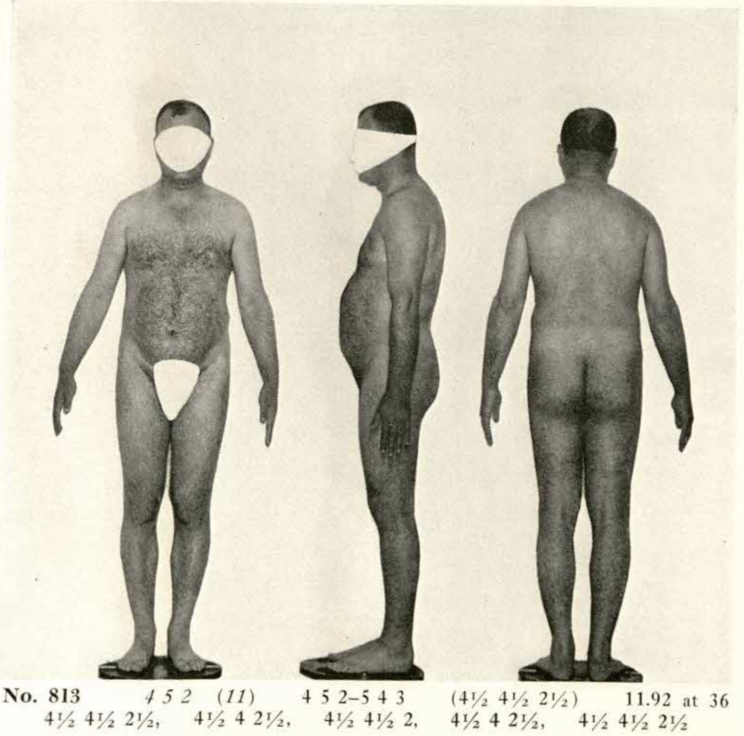


No. 812 *4 5 2* (*10*) 4 5 2–5 4 3 (4½ 4½ 2½) 12.40 at 25
4½ 4½ 2½, 4 5 2½, 4½ 4 2½, 4½ 4½ 2½, 5 4½ 2



No. 813 *4 5 2* (*11*) 4 5 2–5 4 3 (4½ 4½ 2½) 11.92 at 36
4½ 4½ 2½, 4½ 4 2½, 4½ 4½ 2, 4½ 4 2½, 4½ 4½ 2½

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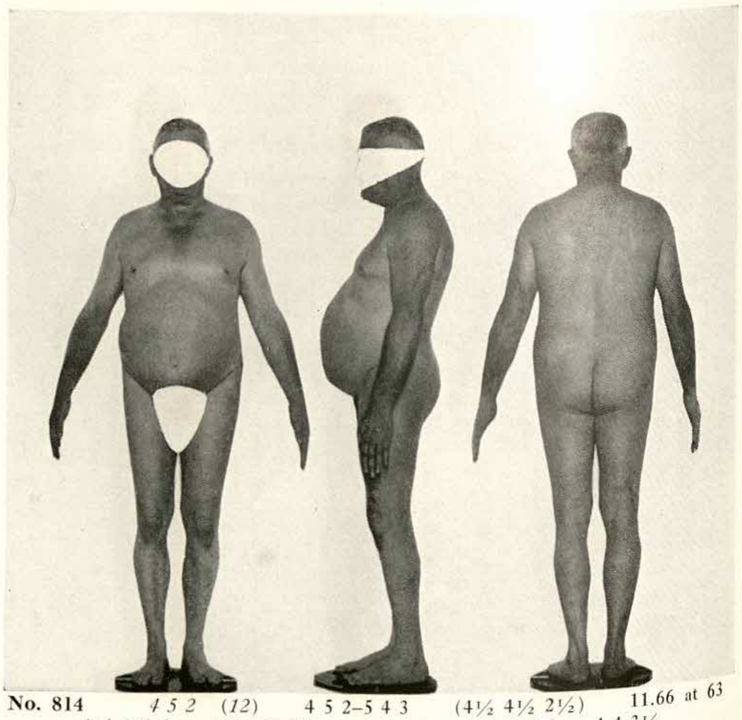
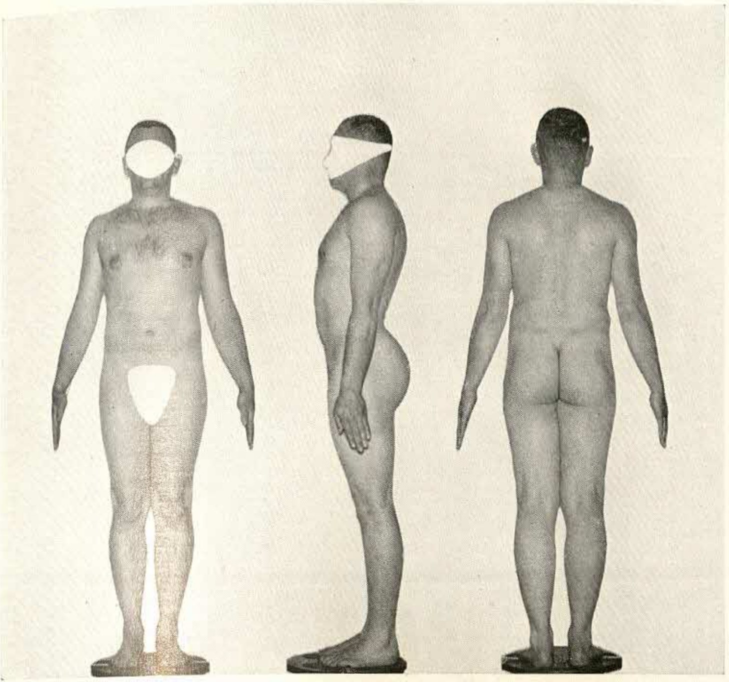


No. 814 *4 5 2* (*12*) 4 5 2–5 4 3 (4½ 4½ 2½) 11.66 at 63
4½ 4½ 2, 4½ 4½ 2½, 4 5½ 2, 4½ 4½ 2, 4 4 3½



No. 815 *4 5 2* (*13*) 4 5 2–5 5 1 (4½ 5 1½) 12.36 at 19
4½ 5 1½, 4½ 5 1½, 4½ 5 1½, 4½ 5 1½, 5 5 1½

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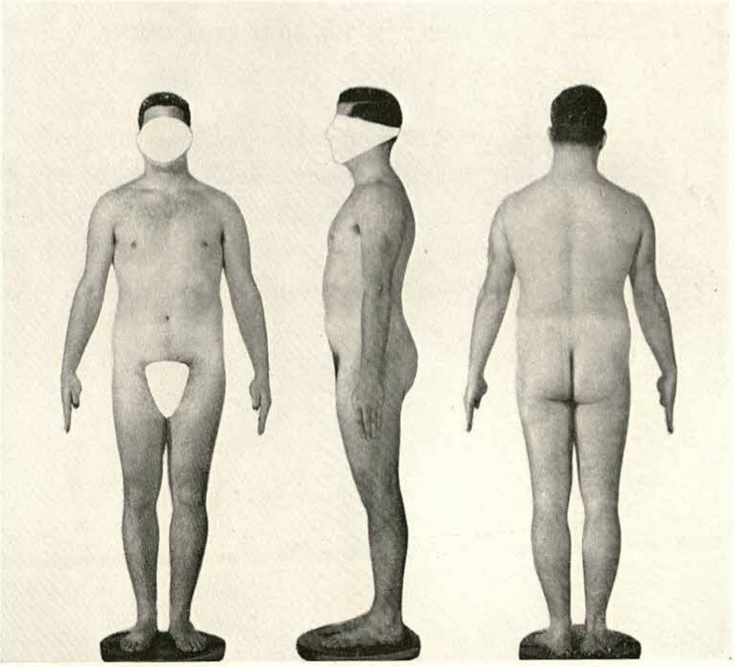
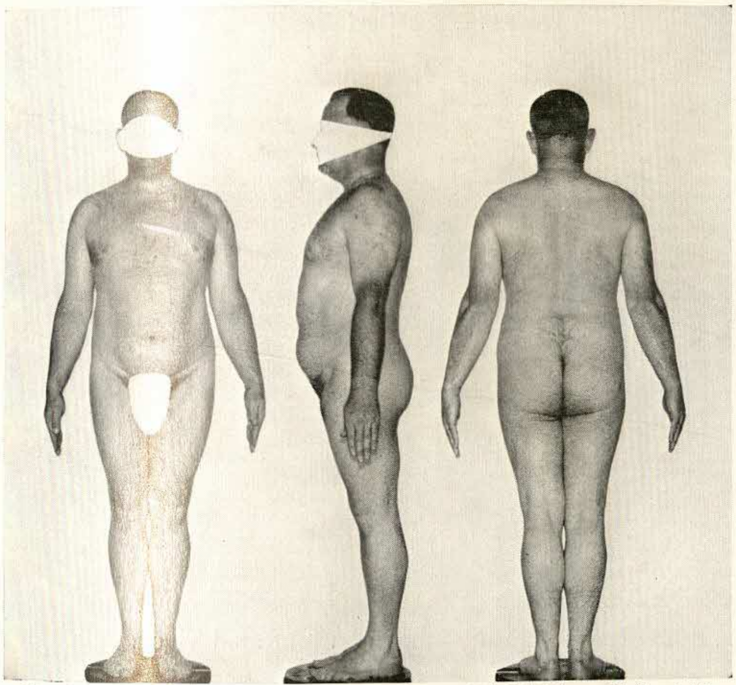
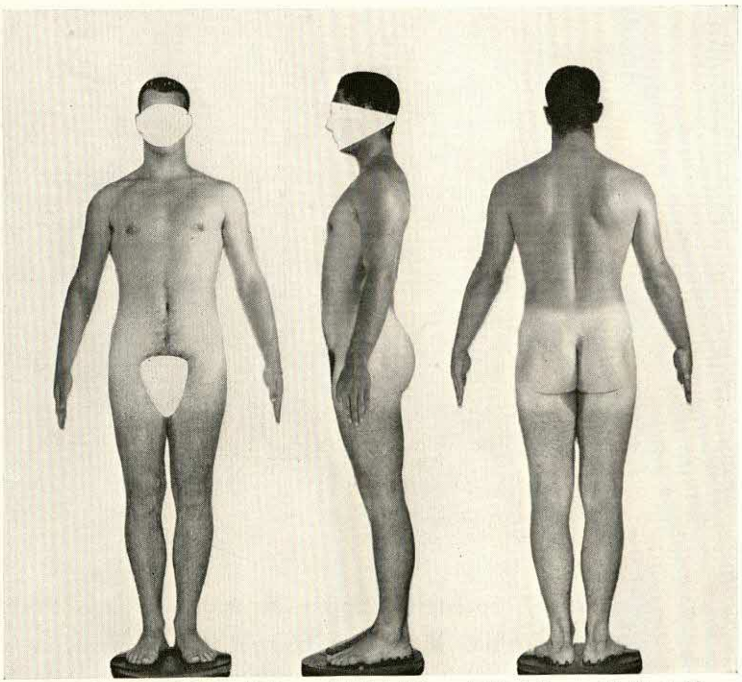


No. 816 *4 5 2* (*14*) 4 5 2–5 5 1 (4½ 5 1½) 12.09 at 23
4½ 5 1½, 4½ 6 1, 4½ 4½ 2, 4½ 5 1½, 4½ 5 1½

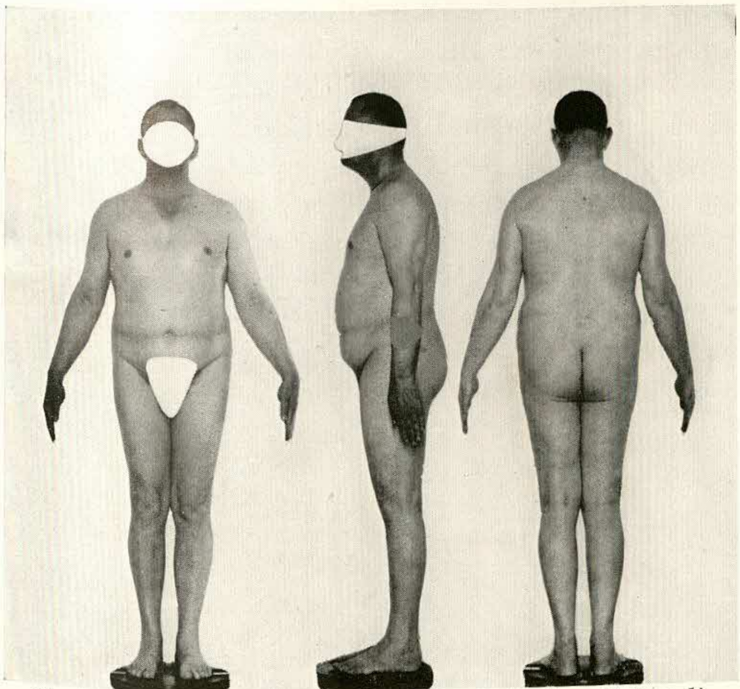


No. 817 *4 5 2* (*15*) 4 5 2–5 5 1 (4½ 5 1½) 11.31 at 43
4½ 5 1½, 4½ 5½ 1½, 4½ 5½ 1, 4½ 5 1½, 4½ 4½ 1½

452



No. 818 *4 5 2* (*16*) 4 5 2–5 5 2 (4½ 5 2) 12.49 at 18
4 4½ 2½, 4 5½ 2, 4½ 5 2, 4½ 5 2, 4½ 5½ 1½



No. 819 *4 5 2* (*17*) 4 5 2–5 5 2 (4½ 5 2) 11.43 at 54
4½ 5 2, 4½ 5 1½, 4½ 5 1½, 4½ 4½ 2, 4½ 4½ 2½

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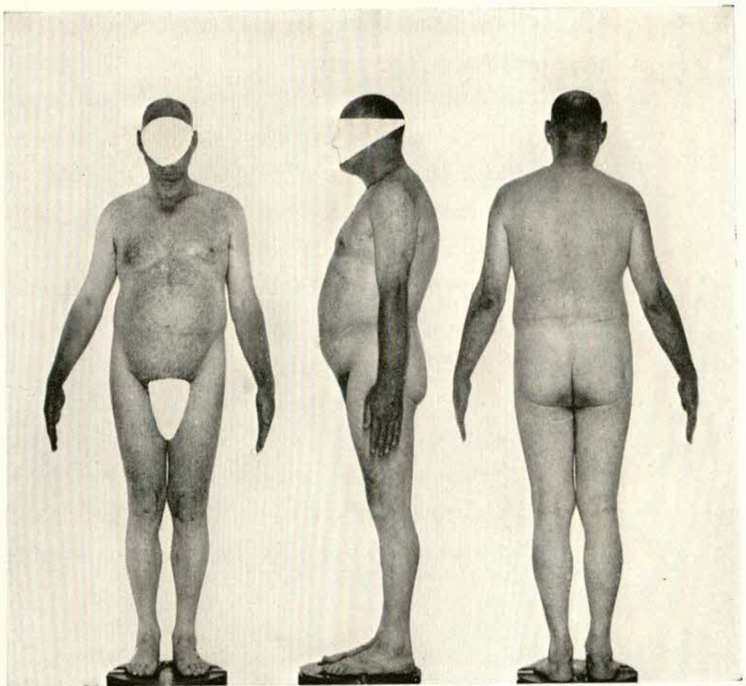
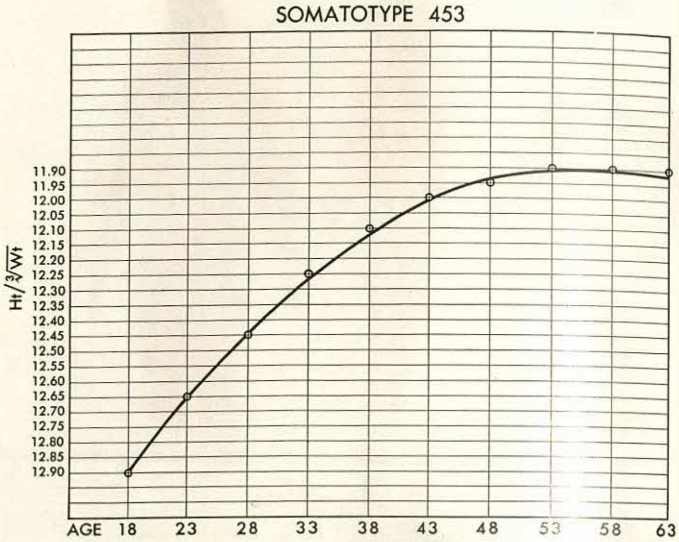
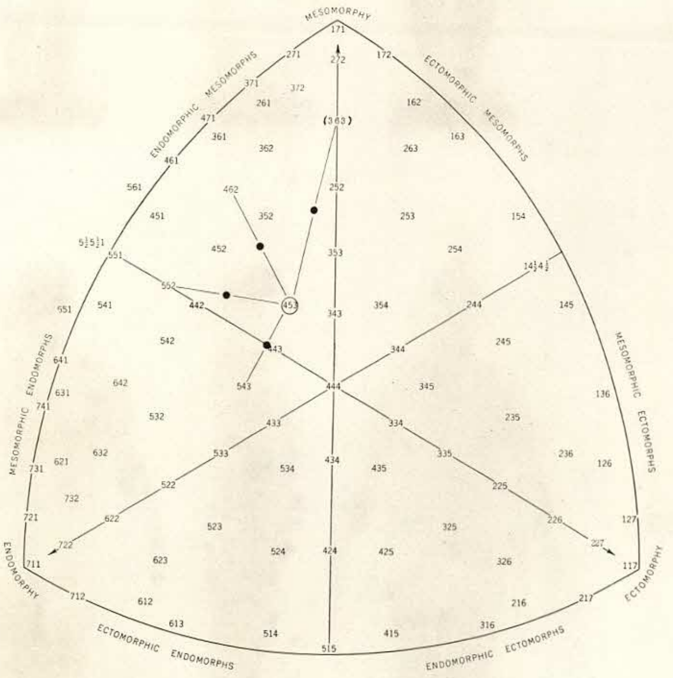


No. 820 *4 5 2* (*18*) 4 5 2–5 5 2 (4½ 5 2) 11.42 at 55
4 5 2, 4½ 5 2, 4½ 5 2, 4½ 5 2, 4 5 2½

Somatotype 4 5 3 *(Endomorphic mesomorphy, 12-level.) Buffalo bull, or American bison. A tall and beefy fellow with an enormous chest and a formidable head and neck, although his legs and hind quarters often tend to be dysplastically ectomorphic. Nos. 824–841.*



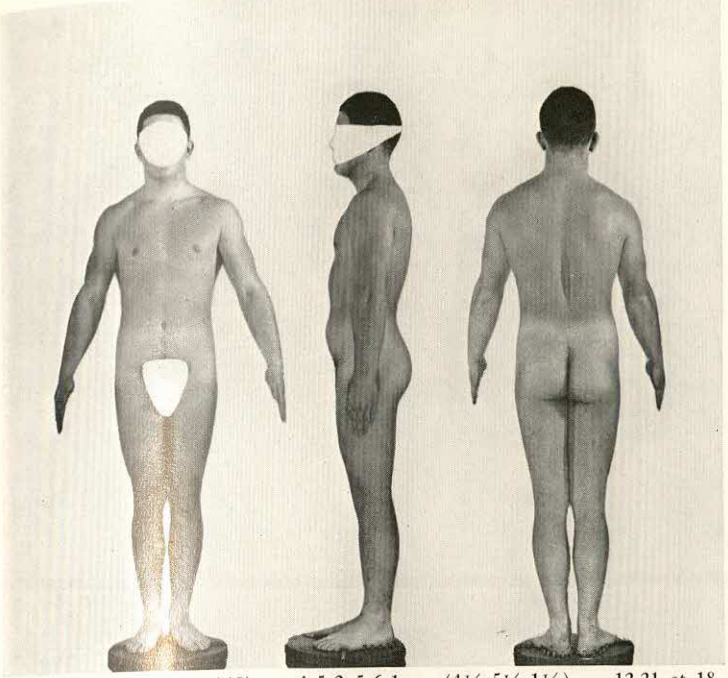


Weight for Age and Height

Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	197	209	218	230	236	248	249	251	251	250
74	189	201	210	221	227	236	239	240	240	240
73	182	193	201	212	218	227	230	231	231	230
72	175	186	193	204	210	218	221	222	222	222
71	167	177	185	195	201	208	211	212	212	212
70	160	170	178	187	193	200	203	204	204	204
69	154	163	170	179	185	192	193	195	195	194
68	147	156	163	171	177	183	186	187	187	187
67	141	149	156	164	169	175	178	179	179	178
66	134	142	149	156	161	167	169	170	170	170
65	128	136	142	149	154	159	162	163	163	163
64	122	130	135	142	147	152	154	155	155	155
63	117	124	129	136	140	145	147	148	148	148
62	111	118	123	130	134	138	141	141	141	141
61	106	112	117	123	127	131	134	134	134	133

Rarity 2. Incidence 28 per thousand. One of the commonest of the "big fellows." The 4 5 3 often reaches very tall stature. If it then so happens that he is dysplastic and has his third component concentrated in the fourth and fifth regions, like a bison, he may present a most imposing appearance. The human male generally wears trousers in our culture, and one of the purposes of trousers is to conceal ectomorphic dysplasia of the fourth and fifth regions. With trousers, a 4 5 3 with the dysplasia mentioned, at a stature of about six feet three, is sometimes able to elicit the casual impression that he is a 3 6 2. Such a young man has a chance. If he will just assume an air of casual superiority regarding football and boxing, he may go a long way. He has a dysplasia which is fatal in body-contact athletics, and would be fatal to a fighter, but in a polite society it is not fatal to a businessman, to a preacher or lawyer, or to a college president. There is even a department of competitive athletics in which 4 5 3's tend to excel. This is long-distance swimming, or any swimming except the sprints, which of course require more mesomorphy—more concentrated vigor.

The idea has appeared in print that Babe Ruth was "about a 4 5 3." The Babe is often accused of having had ectomorphic legs. Distal to the knees, his legs were indeed slender for so massive a physique (Nilotic dysplasia), but proximal to the knees those legs were of tremendous, massive power. The *legs* of this remarkable man, taken as a whole, were perhaps just about 4 5 3. But the rest of him, the other four regions, was more like 4 6 1 or 4 7 1. In all probability the over-all somatotype was approximately 4 6 2. Truly ectomorphic legs would no more have carried Babe Ruth, as he moved, than a deer's legs would carry the Great Alaska bear.



No. 821 *4 5 2* (*19*) 4 5 2–5 6 1 (4½ 5½ 1½) 12.21 at 18
4½ 6 1, 4½ 6 1½, 4½ 6 1, 4 5½ 1½, 5 4½ 1½

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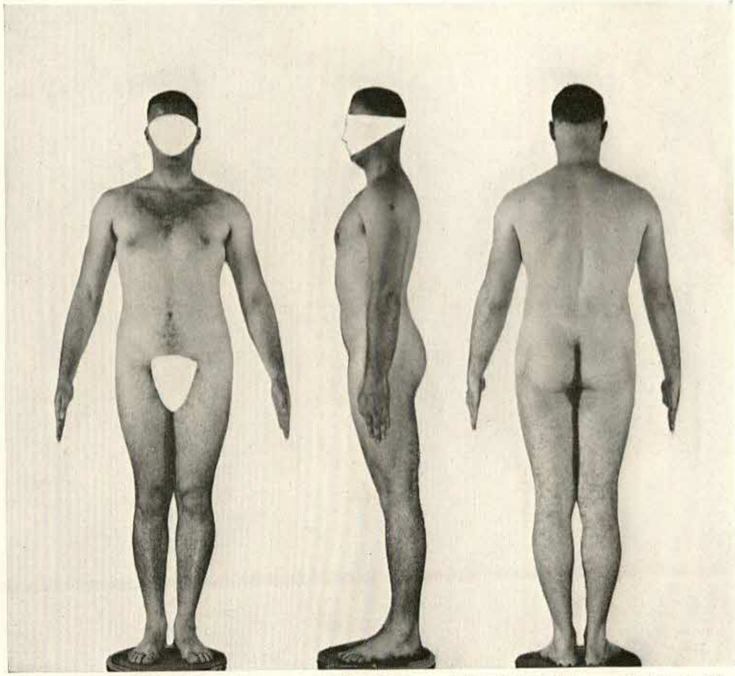
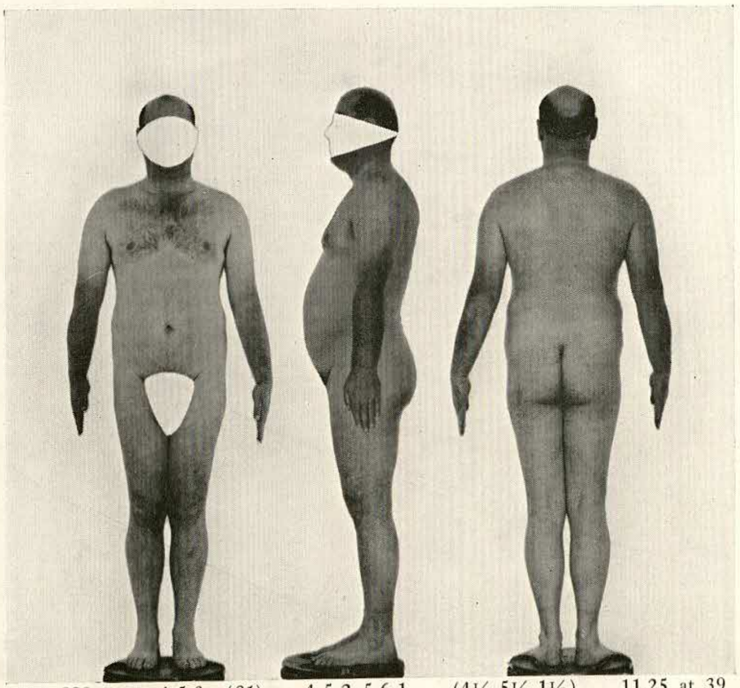
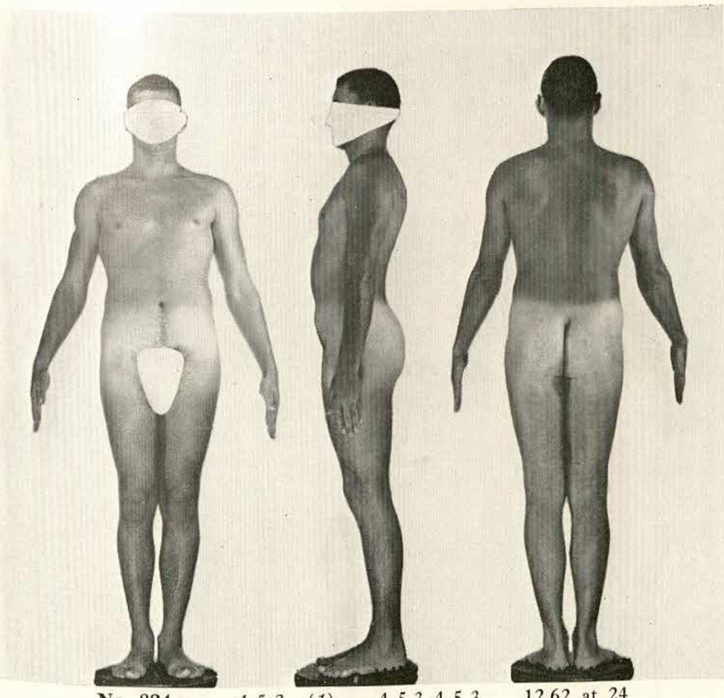


No. 822 *4 5 2* (*20*) 4 5 2–5 6 1 (4½ 5½ 1½) 12.10 at 20
4 5 2, 4½ 6 1, 4½ 6 1, 4½ 5½ 1½, 4½ 5½ 1½

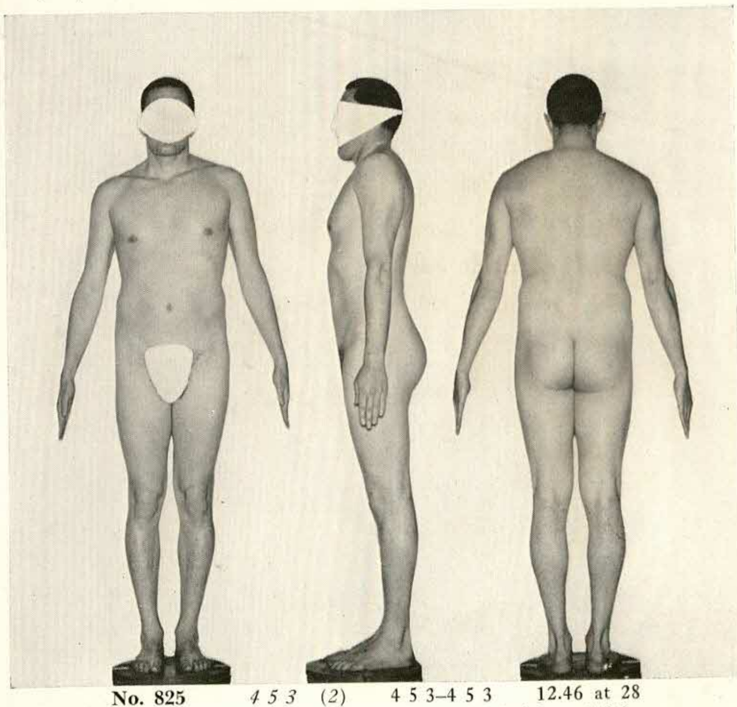


No. 823 *4 5 2* (*21*) 4 5 2–5 6 1 (4½ 5½ 1½) 11.25 at 39
4½ 5½ 1½, 4½ 5½ 1½, 5 5 1, 4½ 5½ 1½, 5 5 1½

453



No. 824 *4 5 3* (*1*) 4 5 3–4 5 3 12.62 at 24
4 5 2½, 3½ 5½ 3, 4 5 3, 4 5 3, 4½ 5 2½



No. 825 *4 5 3* (*2*) 4 5 3–4 5 3 12.46 at 28
4 5 2½, 4 5½ 2½, 4 4 3½, 4½ 4½ 3, 4 5 3

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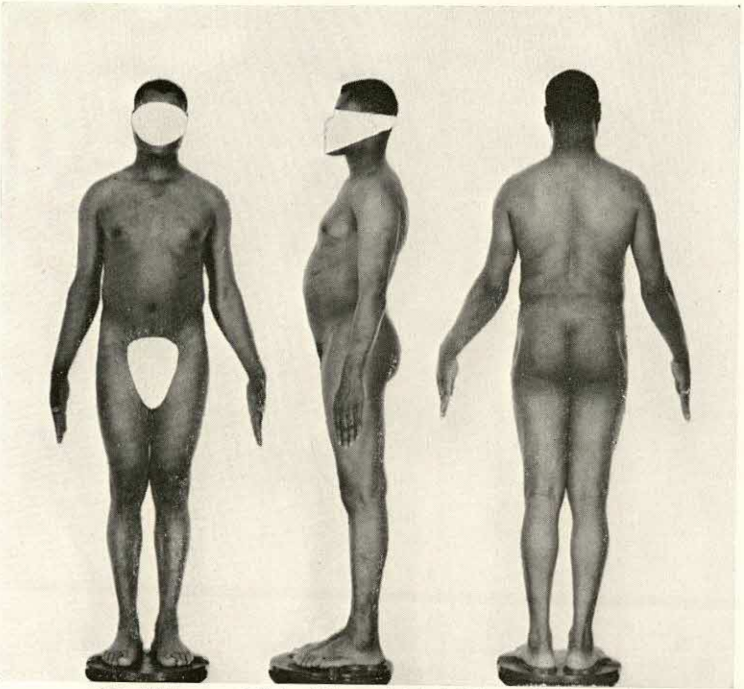
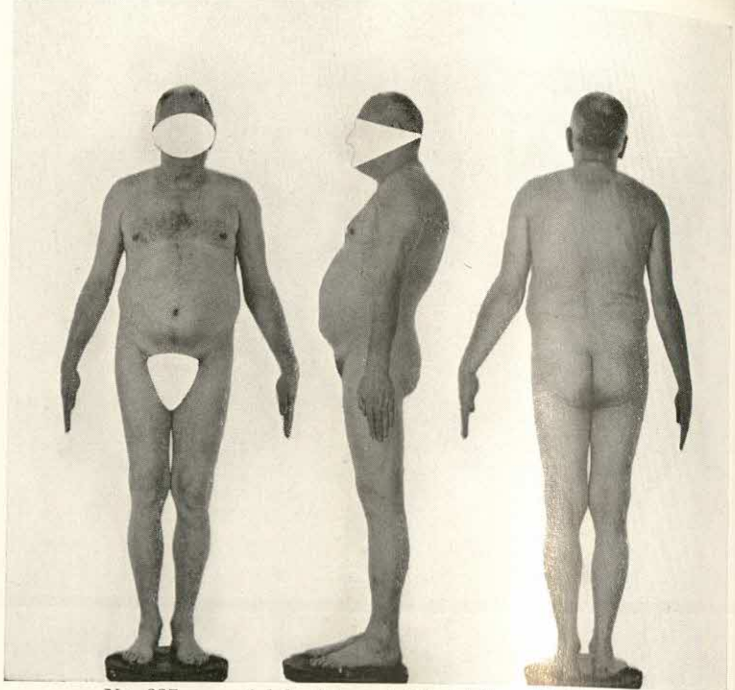


No. 826 *4 5 3* (*3*) 4 5 3–4 5 3 12.23 at 34
3½ 5 3, 4 5 3, 4 5 3, 3½ 5½ 2, 4 5 3



No. 827 *4 5 3* (*4*) 4 5 3–4 5 3 11.93 at 64
4 5½ 2½, 4½ 4½ 3, 4½ 4½ 3, 4½ 4½ 2½, 3½ 5½ 3

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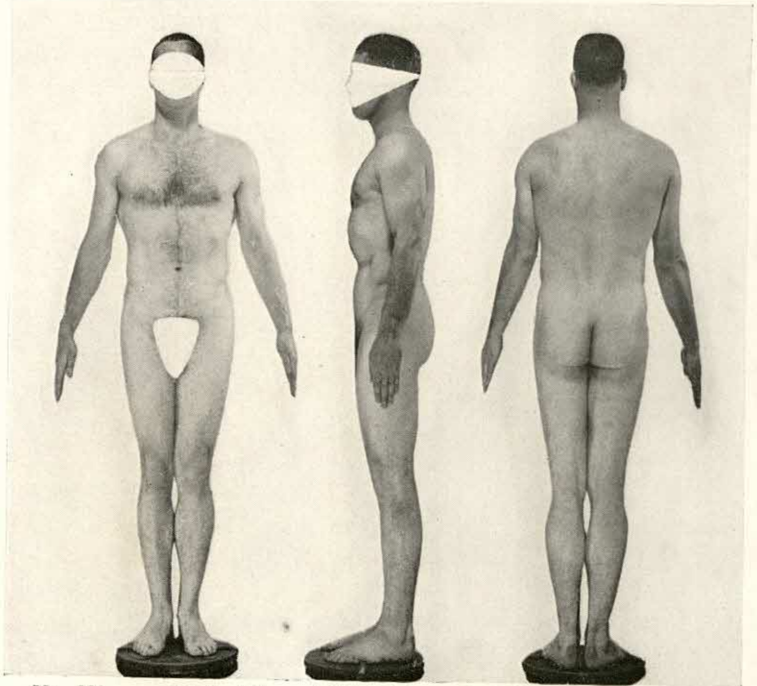
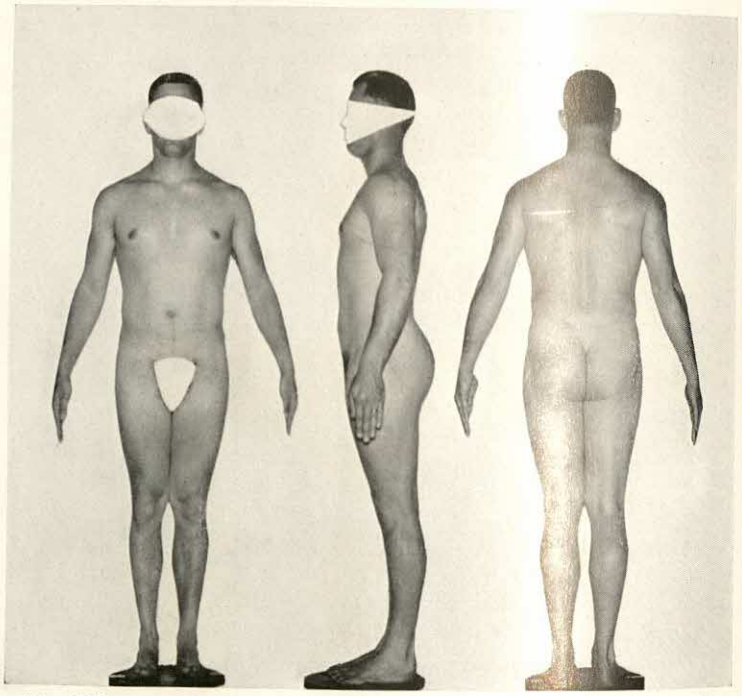
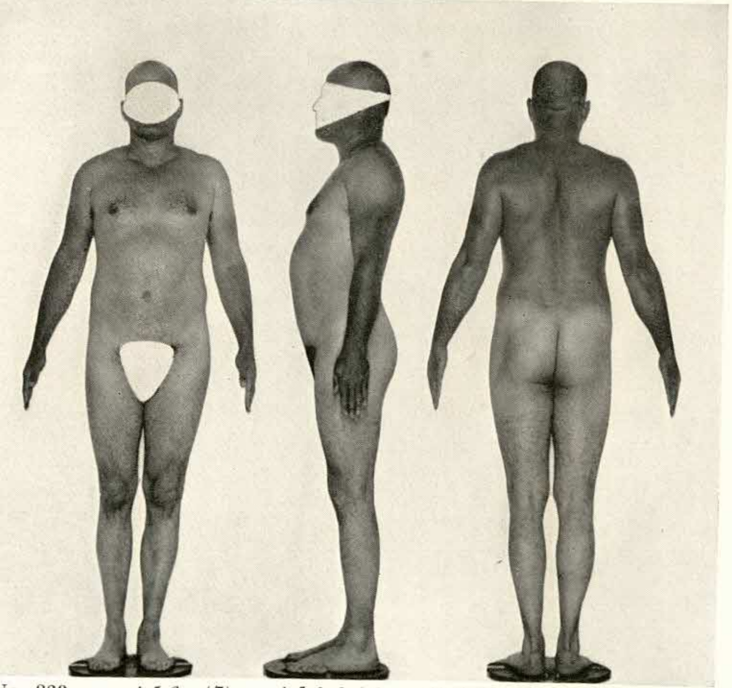


No. 828 *4 5 3* (*5*) 4 5 3–3 6 3 (3½ 5½ 3) 12.64 at 23
3½ 5½ 3, 3½ 5½ 3, 3½ 5½ 3, 3 5½ 3, 4 4½ 3

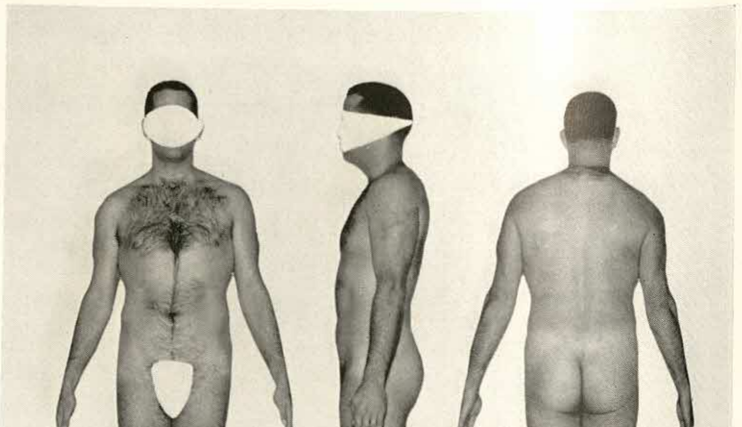


No. 829 *4 5 3* (*6*) 4 5 3–3 6 3 (3½ 5½ 3) 12.28 at 31
3½ 5½ 3, 3½ 5½ 2½, 3½ 5½ 3, 3½ 5½ 2½, 4 5 3

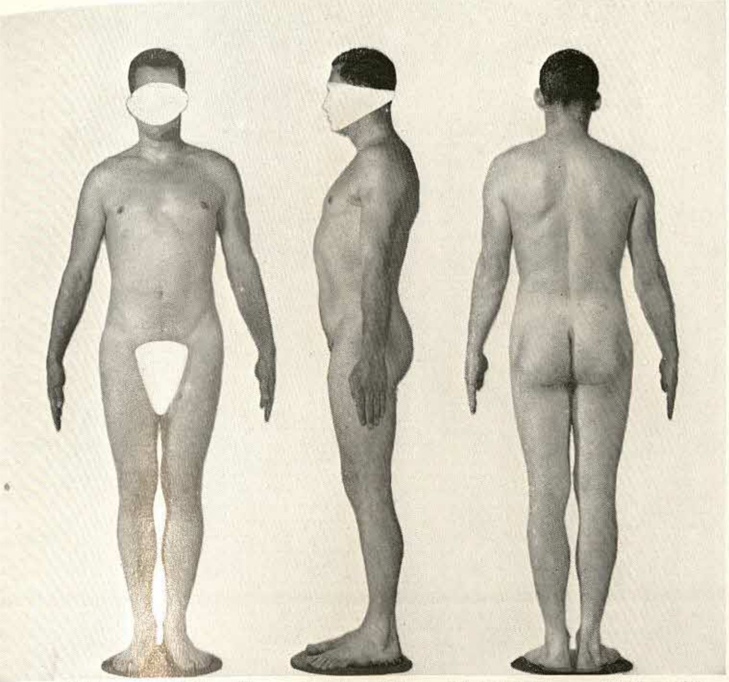
453



No. 830 *4 5 3* (*7*) 4 5 3–3 6 3 (3½ 5½ 3) 12.00 at 45
3½ 5½ 2½, 3½ 5½ 3, 4 5½ 2½, 3½ 5½ 3, 3½ 5 3

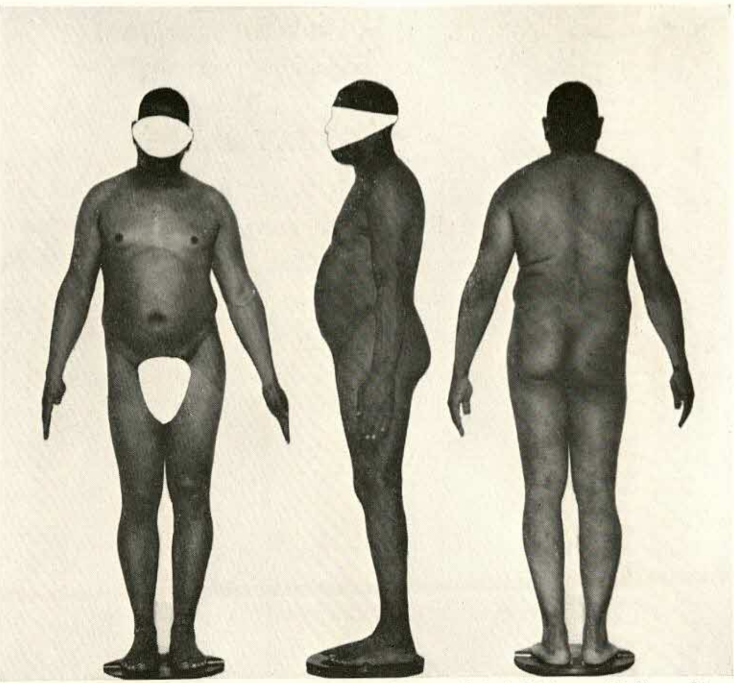


No. 831 *4 5 3* (*8*) 4 5 3–4 6 2 (4 5½ 2½) 12.36 at 24
4 5 2½, 4 5½ 2½, 4 5½ 2½, 4 5½ 2½, 4 5 3

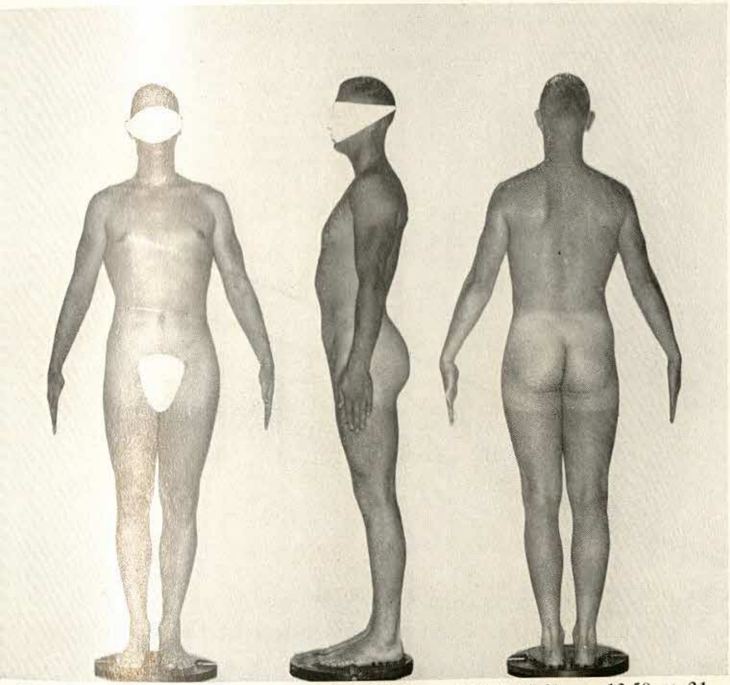


No. 832 *4 5 3* *(9)* 4 5 3–4 6 2 (4 5½ 2½) 12.17 at 29
4 5½ 2½, 4 5 2½, 4 5½ 2, 4 5½ 2½, 4 5 3

453



No. 833 *4 5 3* *(10)* 4 5 3–4 6 2 (4 5½ 2½) 11.58 at 51
4 6 2, 4 5½ 2½, 4 5½ 2½, 4 5½ 2, 3½ 5½ 2½



No. 834 *4 5 3* *(11)* 4 5 3–5 4 3 (4½ 4½ 3) 12.59 at 21
3½ 4½ 3½, 4½ 4 3, 4½ 4½ 3, 4½ 4½ 3, 4½ 4½ 3

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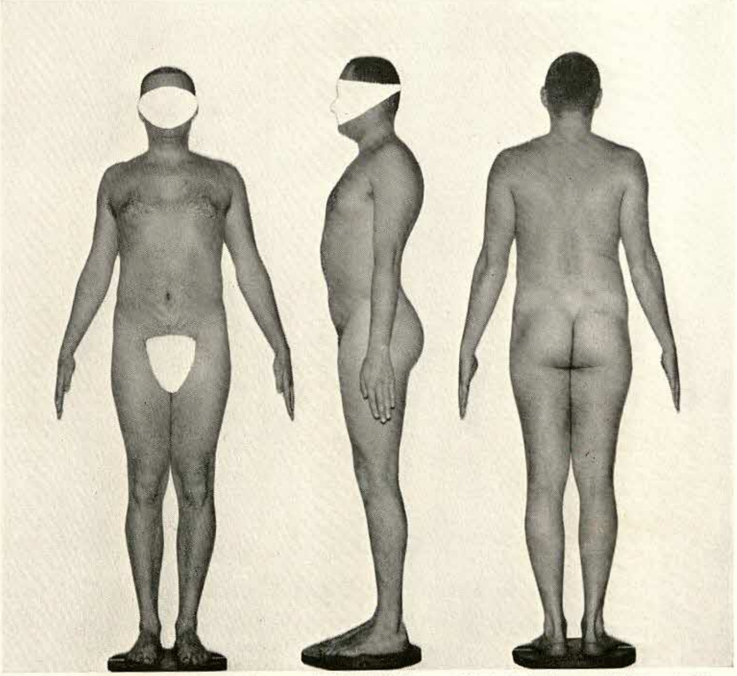
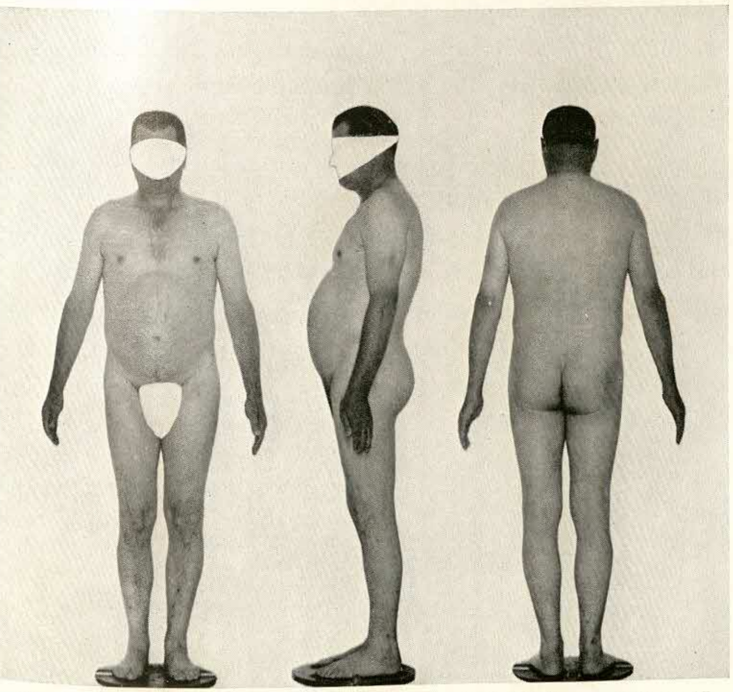
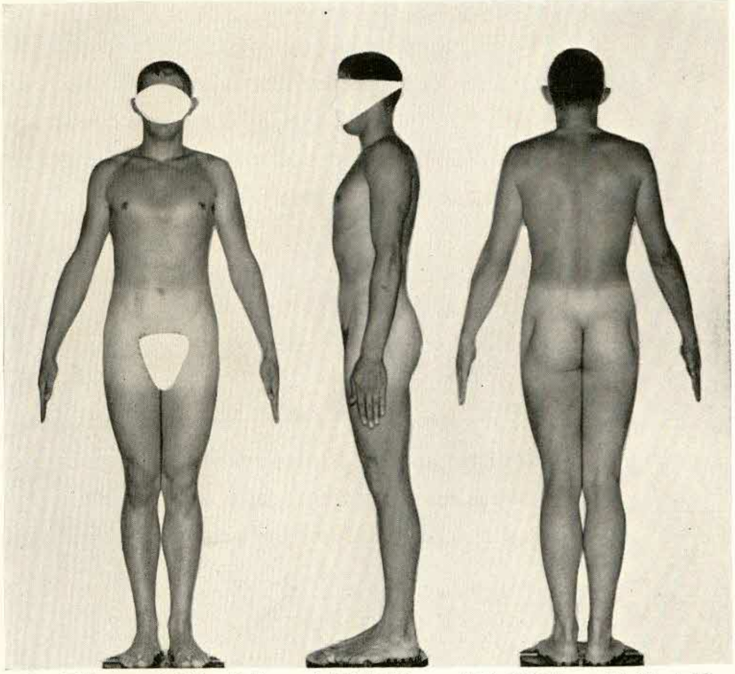


No. 835 *4 5 3* *(12)* 4 5 3–5 4 3 (4½ 4½ 3) 12.33 at 28
4½ 4½ 2½, 4½ 4½ 2½, 4½ 4 3½, 4½ 4½ 3, 4½ 4½ 3



No. 836 *4 5 3* *(13)* 4 5 3–5 4 3 (4½ 4½ 3) 11.84 at 47
4½ 4½ 2½, 4½ 4 3, 4½ 4 3, 4 4½ 3, 4 4½ 2½

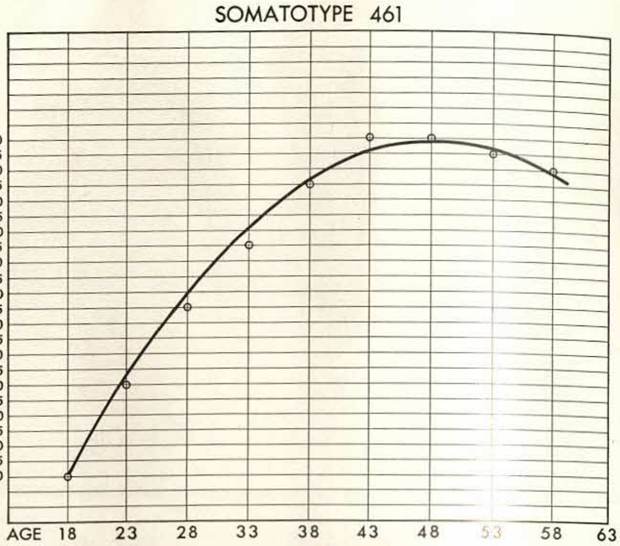
453

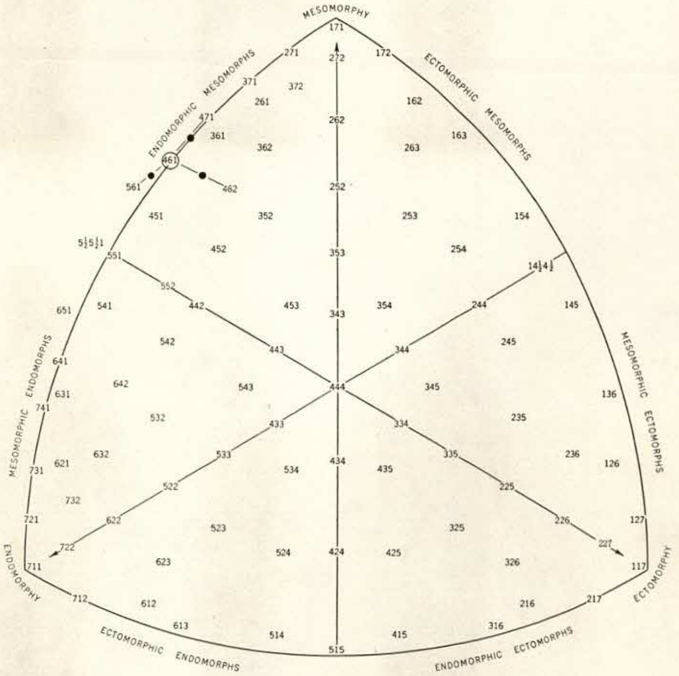


No. 837 *4 5 3* *(14)* 4 5 3–5 5 2 (4½ 5 2½) 12.60 at 18
4½ 4½ 2½, 4½ 5 2½, 4½ 4½ 3, 4 5 3, 4 5 3, 4½ 5 2½

27. GREAT BEARS

Somatotype 4 6 1 *(Endomorphic extreme mesomorphy at extreme ectopenia, 11-level.) Grizzly bears. First cousins of the mesomorphic royalty, or the royalty grown heavier and lazier, having lost some of its taste for fresh meat and now eating mainly more easily captured things like roots and berries. Nos. 842–850.*





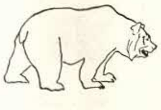
Weight for Age and Height

Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	236	256	270	290	302	319	319	315	306	..
74	226	245	259	277	288	305	305	301	293	..
73	217	235	249	266	277	292	292	288	282	..
72	209	226	239	256	266	281	281	277	271	..
71	201	217	230	246	256	269	269	266	260	..
70	193	208	221	236	246	258	258	255	250	..
69	185	200	212	226	236	248	248	244	239	..
68	177	191	203	216	226	238	238	235	230	..
67	169	182	194	207	216	227	227	224	219	..
66	161	174	186	197	206	216	216	214	209	..
65	154	166	177	188	197	207	207	205	199	..
64	147	159	169	180	188	197	197	195	190	..
63	140	151	161	171	179	188	188	186	182	..
62	134	144	154	163	171	179	179	177	173	..
61	127	137	146	156	163	171	171	169	165	..

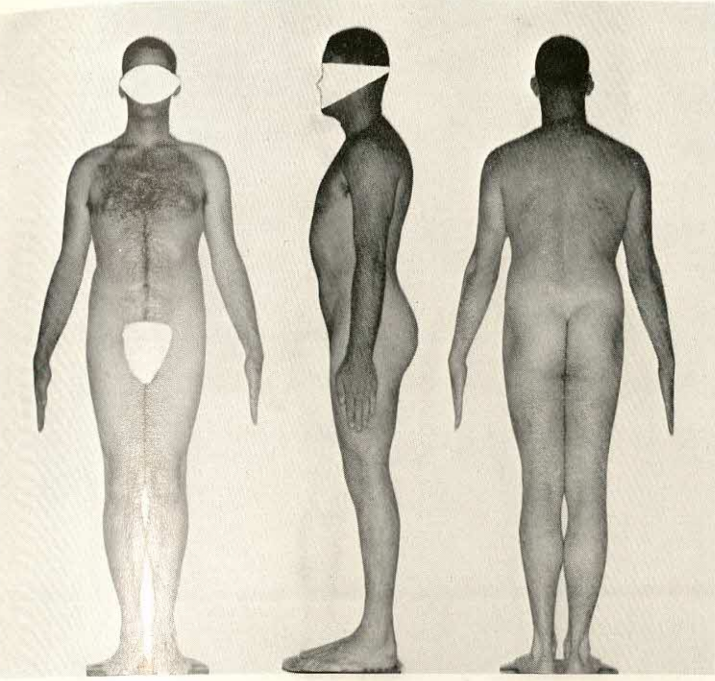
Rarity 4. Incidence 2 per thousand. With this somatotype we penetrate toward the center and stronghold of the true heavyweight territory. The real human behemoths and most of the champions at wrestling are still heavier than the 4 6 1—they appear to be 4 7 1's and 5 6 1's—but he who has the wisdom not to put his head in the mouth of a grizzly bear is inclined likewise to be polite and gracious in his social intercourse with a 4 6 1. It is a remarkable thing how easy it is to be gracious or unoffending toward extreme mesomorphs.

This is the perfect Alpine physique, as that concept was originally defined. The head tends toward extreme brachycephaly, the trunk toward extreme length in proportion to the legs, the chest toward enormity, and the whole body toward rounded or streamlined power. Anthropologists named it Alpine because of their impression, which certainly is correct, that the mountain-dwelling people of the Alps country are prone to present this general physical pattern. Qualitative details like eye color, hair color and so on were also included in the original concept but need not concern us here because they of course are applied only to a particular population. It is not only among Alpine people but among people of mountain or high country in general that the Northwestern pattern (endomorphic mesomorphy) seems to be best adapted.

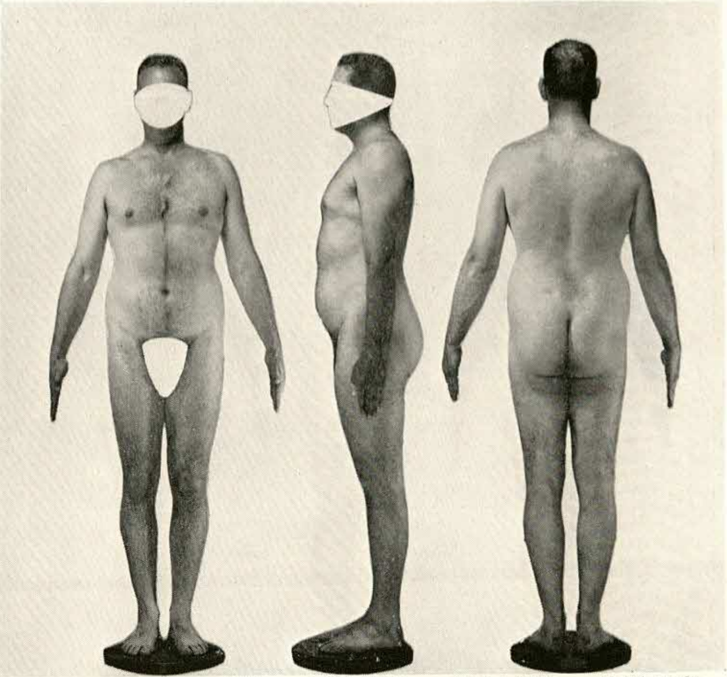
In our American culture the average 4 6 1 takes on weight fast, after college age, reaches his maximum early, and begins rather quickly to fall back. The nutrition chart indicates that this is typically an old man at 60. What we do not know is this: Would the same be true of a fair sample of 4 6 1's in the Alps country, and under normal Alpine conditions?



453

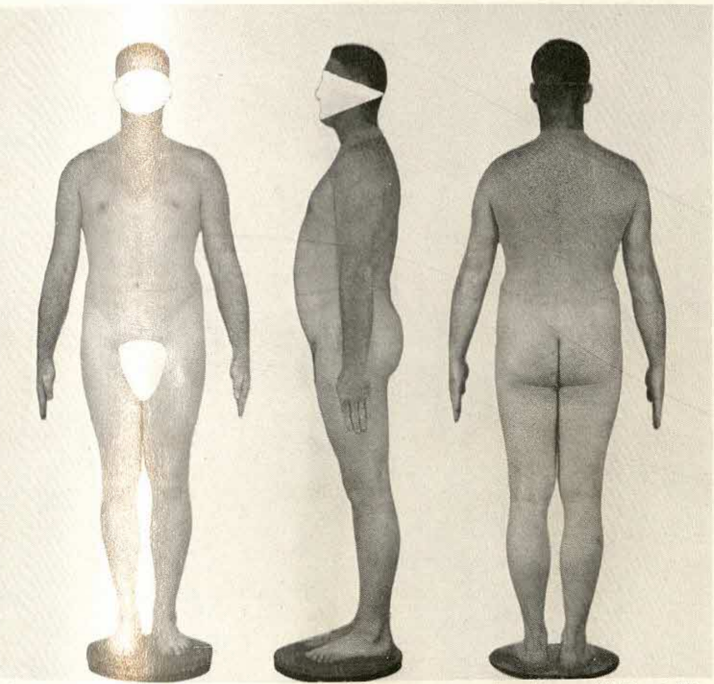


No. 838 *4 5 3* (*15*) 4 5 3–5 5 2 (4½ 5 2½) 12.33 at 22
4½ 5 2½, 4 5 2½, 4½ 5 2½, 4½ 5 2½, 4½ 4½ 3

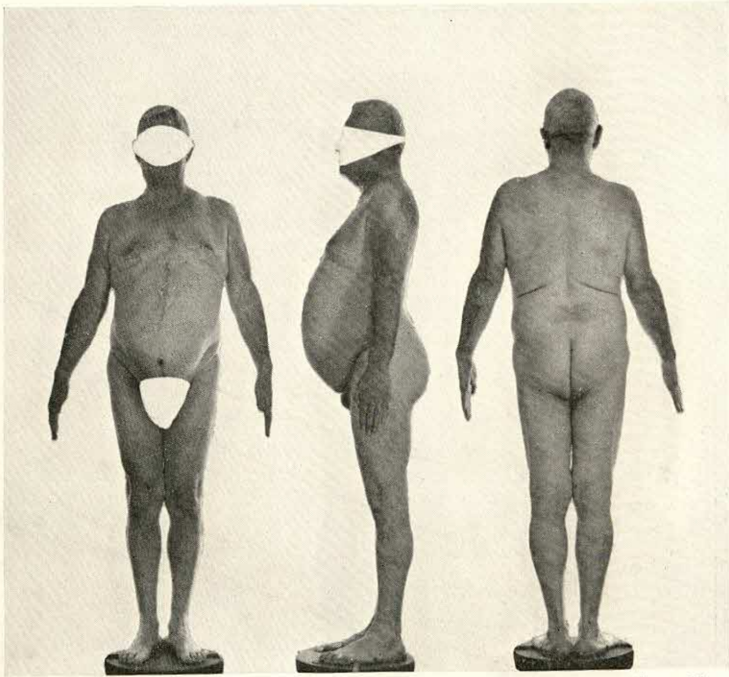


No. 839 *4 5 3* (*16*) 4 5 3–5 5 2 (4½ 5 2½) 11.86 at 33
4 5 3, 4½ 5 2, 4½ 5 2½, 5 5 2½, 4 5 2½

453

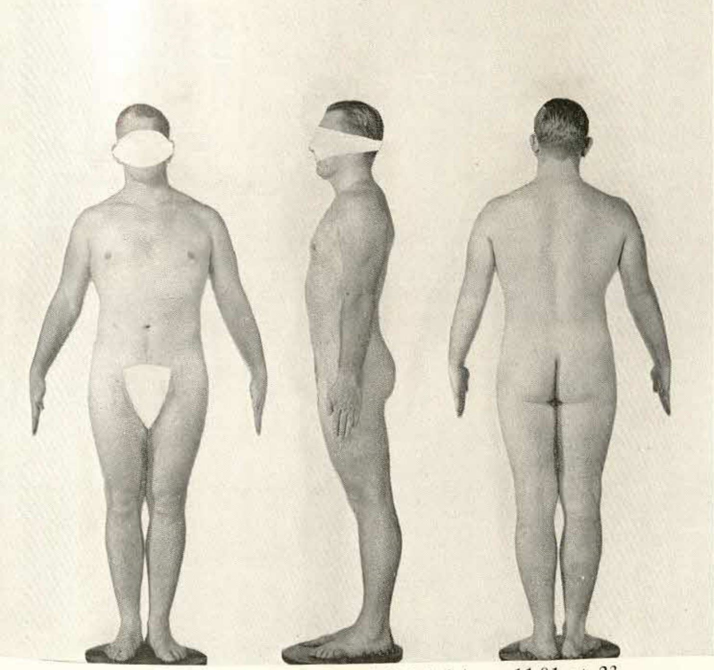


No. 840 *4 5 3* (*17*) 4 5 3–5 5 2 (4½ 5 2½) 11.77 at 37
4½ 4½ 3, 4½ 5 2½, 4½ 5 1½, 4½ 5 2½, 4½ 5½ 2

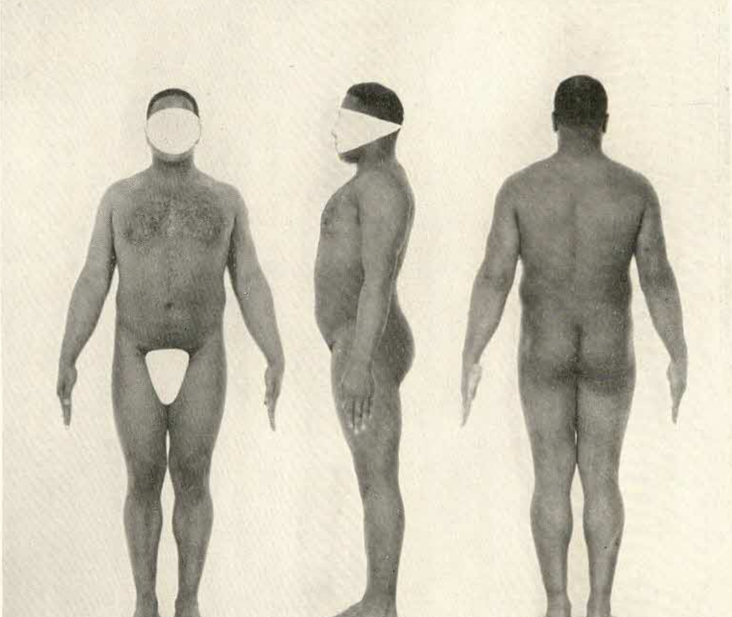


No. 841 *4 5 3* (*18*) 4 5 3–5 5 2 (4½ 5 2½) 11.65 at 65
4 5 2½, 4½ 4½ 3, 4½ 5 2, 5 5 2, 4 5 3

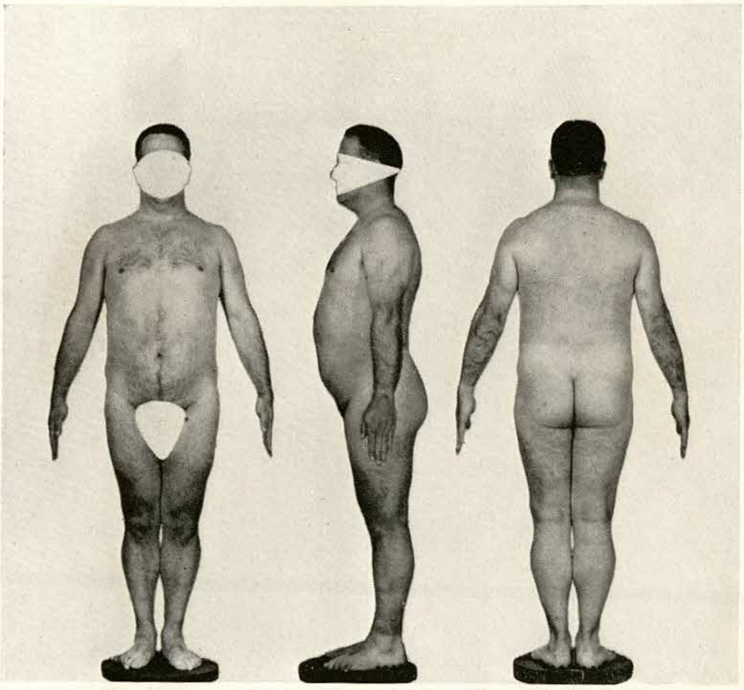
461



No. 842 *4 6 1* (*1*) 4 6 1–4 6 1 11.81 at 23
3½ 6 1½, 4 6 1, 4 6½ 1, 4 6 1, 4 6 1½

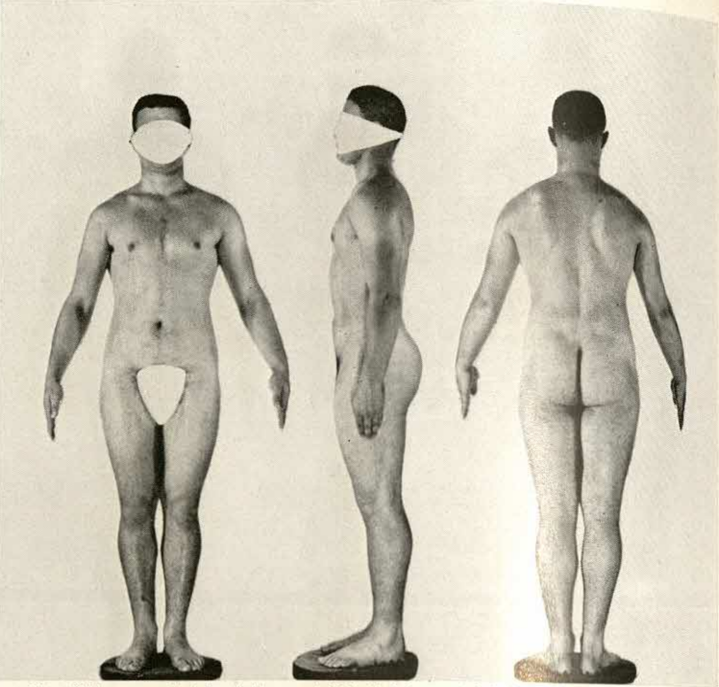


No. 843 *4 6 1* (*2*) 4 6 1–4 6 1 11.35 at 34
4 6 1, 4 6½ 1, 4½ 5½ 1½, 4 6 1, 4 5½ 1½

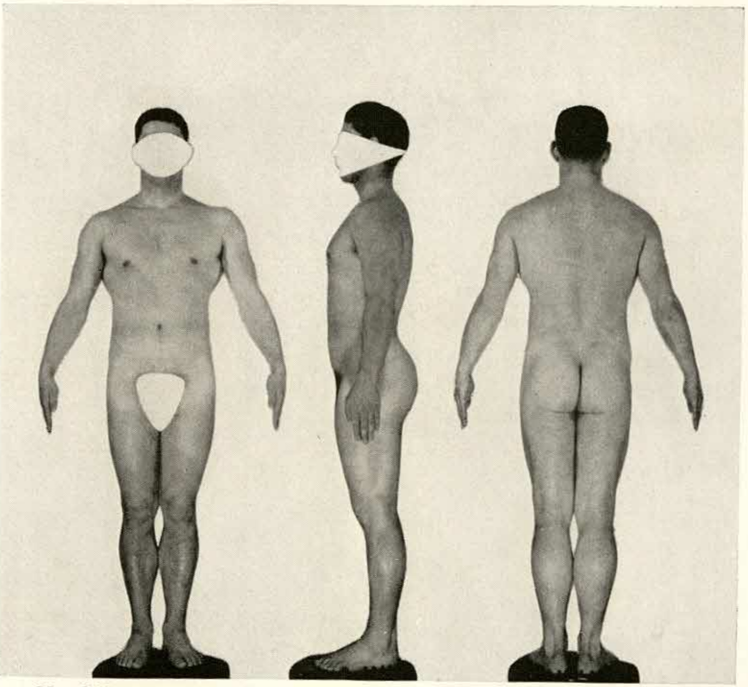


No. 844 *4 6 1* (*3*) 4 6 1–4 6 1 11.00 at 45
4½ 6 1, 4 6 1, 4 6 1, 4½ 6 1, 4 6 1½

461

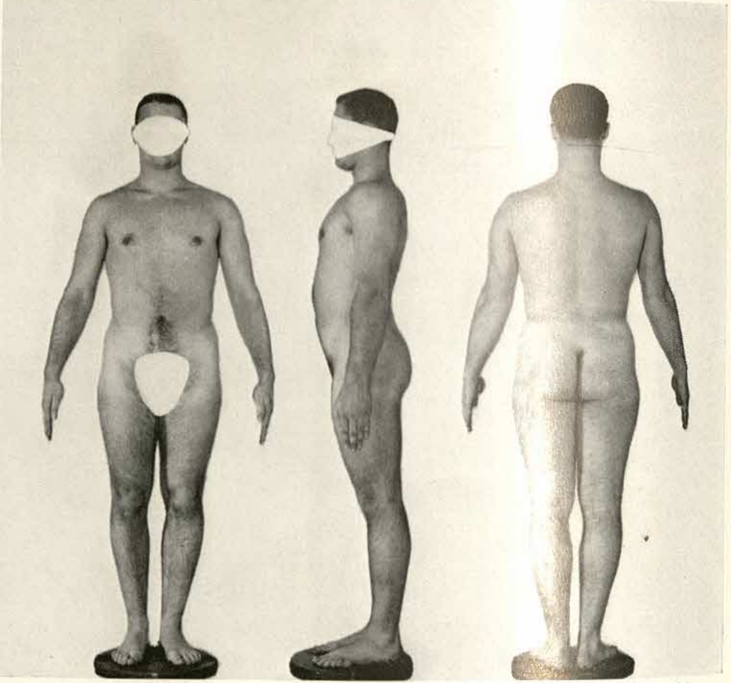


No. 845 *4 6 1* (*4*) 4 6 1–4 6 2 (4 6 1½) 12.20 at 18
4 5½ 1½, 3½ 6 1½, 4 6 1, 4 5½ 1½, 4 6 1½

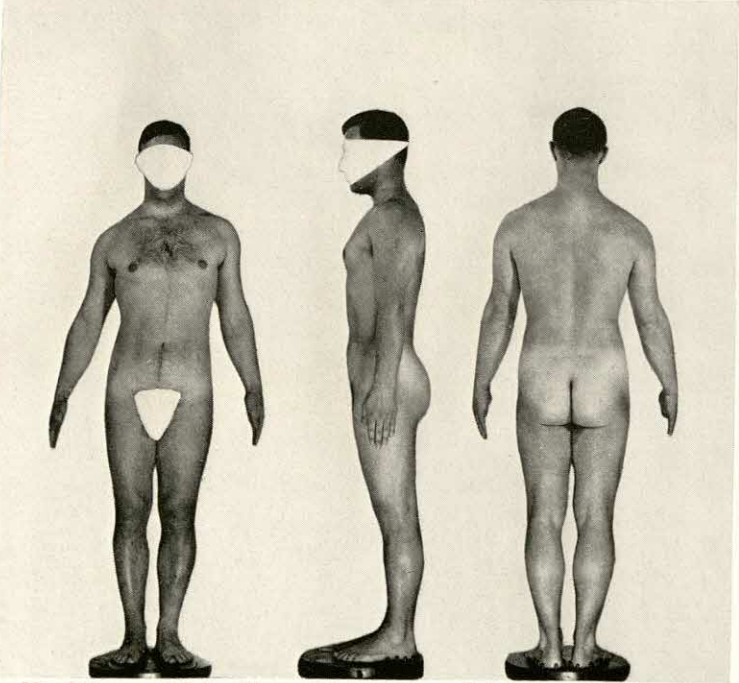


No. 846 *4 6 1* (*5*) 4 6 1–4 6 2 (4 6 1½) 12.20 at 19
4 5½ 1½, 4½ 6 1½, 4 5½ 1½, 4 6 2, 4 6 1½

461

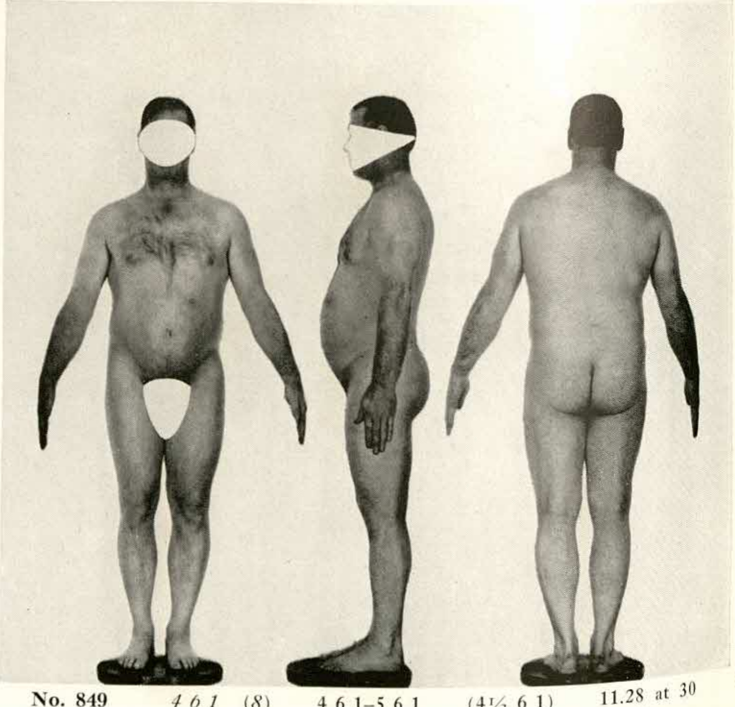


No. 847 *4 6 1* (*6*) 4 6 1–4 6 2 (4 6 1½) 11.96 at 22
3½ 5½ 2, 4 6 1, 4 6 1½, 4 6 1½, 4 6 1½



No. 848 *4 6 1* (*7*) 4 6 1–4 7 1 (4 6½ 1) 11.94 at 19
4 6 1½, 4 6½ 1, 4 6½ 1, 3½ 6 1½, 3½ 6½ 1

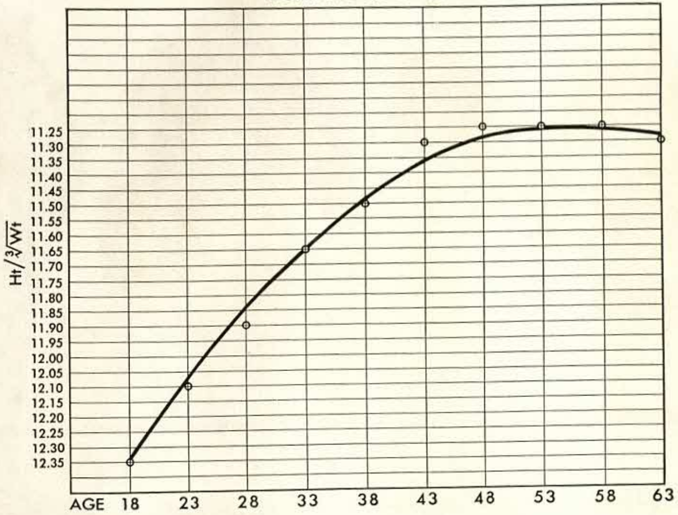
461

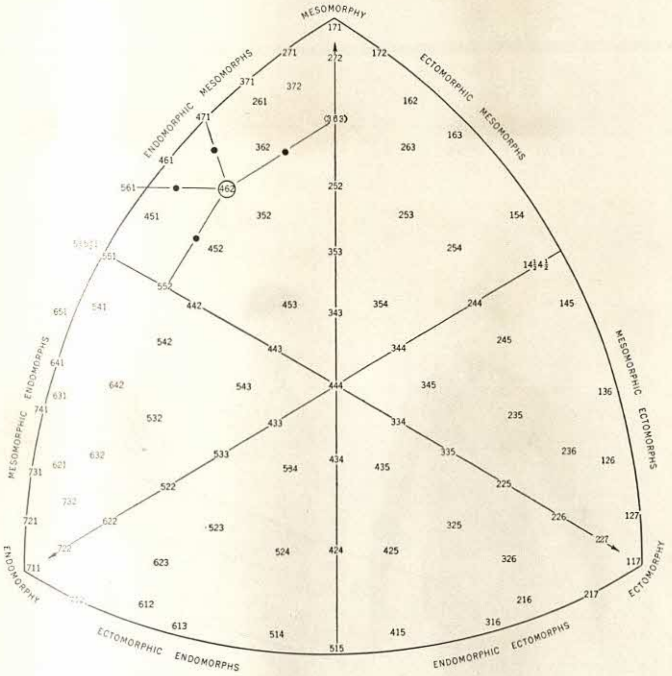


No. 849 *4 6 1* (*8*) 4 6 1–5 6 1 (4½ 6 1) 11.28 at 30
4 6 1½, 4½ 6½ 1, 4½ 6½ 1, 4½ 6 1, 4½ 6 1½

Somatotype 4 6 2 *(Endomorphic extreme mesomorphy, 12-level.) The Great Alaska brown bear. Kodiak bear. All the strength and massive power of the grizzlies but taller and larger by a third. The most powerful carnivores now roaming the earth but, having no guns, they are a disinherited royalty, and they live in large measure on berries, roots, ants and fish. Nos. 851–866.*

SOMATOTYPE 462



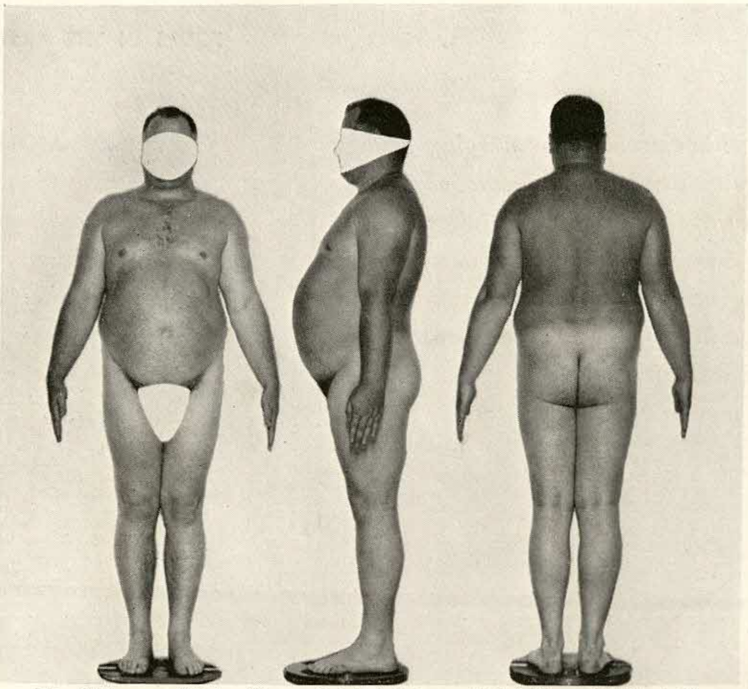


Weight for Age and Height

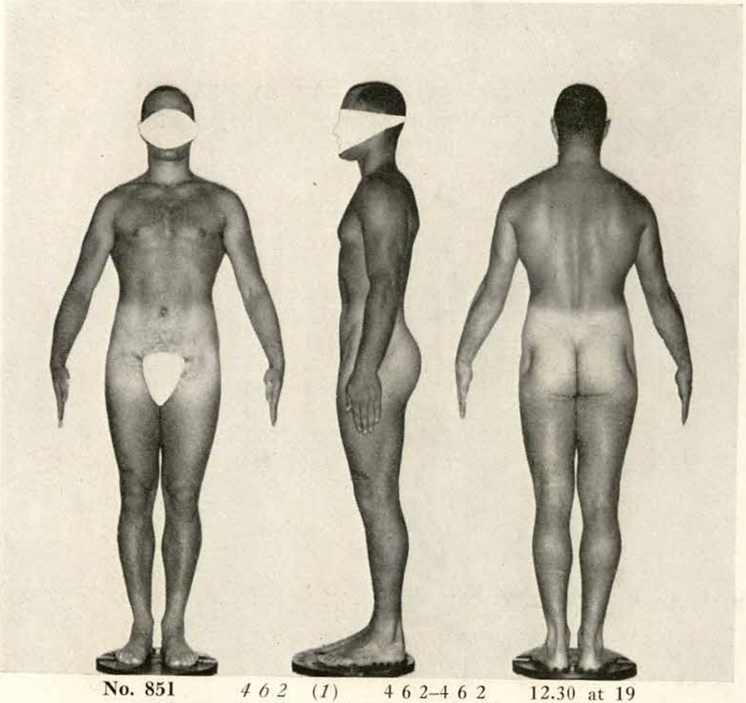
Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	224	240	251	267	278	287	298	298	295	287
74	214	229	240	255	267	276	286	286	282	276
73	206	220	231	245	256	266	274	274	270	266
72	198	212	222	235	246	256	263	263	260	256
71	190	203	213	226	236	246	252	252	250	246
70	182	195	205	217	227	236	242	242	240	236
69	175	187	196	208	217	227	232	232	230	227
68	168	179	188	199	208	217	222	222	220	217
67	160	171	179	190	199	207	212	212	211	207
66	153	163	171	181	190	198	202	202	201	198
65	146	156	164	173	181	189	193	193	192	189
64	139	148	156	165	173	180	184	184	183	180
63	133	141	149	157	165	172	176	176	175	172
62	127	135	142	150	157	164	168	168	167	164
61	121	128	135	143	150	157	160	160	159	157

Rarity 2. Incidence 6 per thousand. The amateur fullback somatotype. Probably a third or more of the fullbacks on college teams, taken mine run throughout the country, would prove to be recruited from this somatotype. Ideally, the 3 7 2 is your fullback. He is the professional, but the 4 6 2 is twice as frequently available in the general population, and in the *little* colleges, where football is not so well subsidized, he may be five or ten times more often available. The 3 7 2's who have the requisite size, coördination and good health are at a premium. They are likely to have been heard of at one of the colleges that successfully use professional football as a sideshow, and so to have "won" a scholarship. But in an average college of one thousand male students there will be some half dozen 4 6 2's.

Assume that one of these 4 6 2's will be crippled with infantile paralysis (this somatotype appears to be a dead center favorite for that disease), one will have congenital anomaly or weakness, one a disabling hernia, and one will have just driven a motorcycle between the headlights of a truck. Of the two remaining 4 6 2's, one will have a gynandroid interference or poor coördination, and the other will probably be the fullback. The rest of the backfield will be 2 6 2's or 3 6 2's—there may be a 7 among them—the ends will possibly be tall 2 6 3's, and the line will include such massive ectopenes as may be ploughing their ponderous way to higher learning in that particular inland sea.

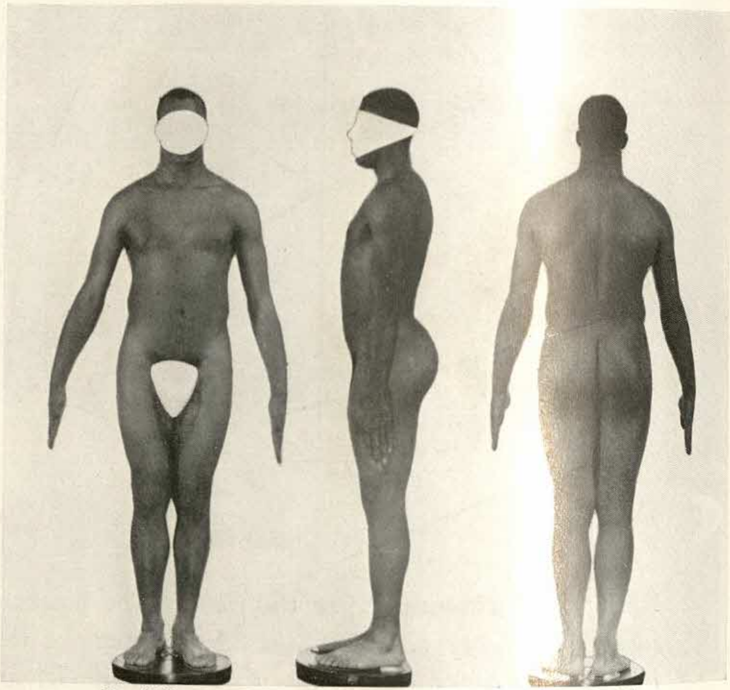


No. 850 *4 6 1* (*9*) 4 6 1–5 6 1 (4½ 6 1) 10.70 at 44
4½ 6 1, 4½ 6 1, 4½ 6 1, 4½ 6 1, 5 5½ 1½

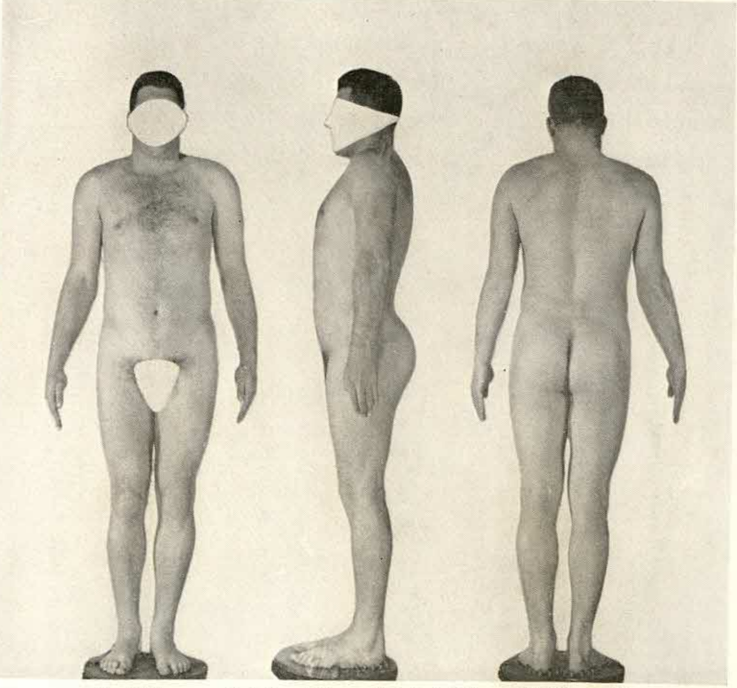


No. 851 *4 6 2* (*1*) 4 6 2–4 6 2 12.30 at 19
4 5½ 2, 4 6 2, 4 6½ 1½, 3½ 6 2, 4 6 2

462

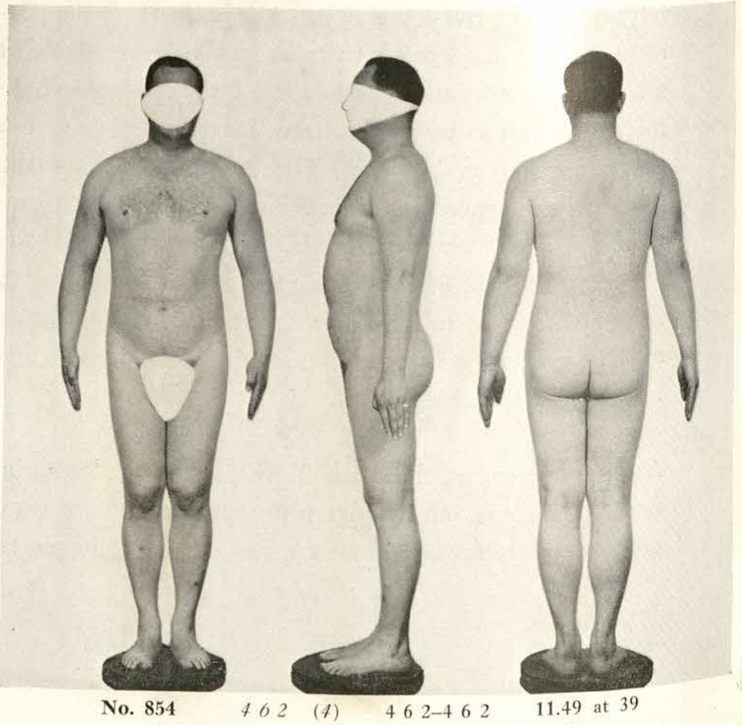


No. 852 *4 6 2* (*2*) 4 6 2–4 6 2 12.23 at 20
3½ 6 2, 3½ 6 2, 4 5½ 2½, 4 6 2, 4½ 6 2

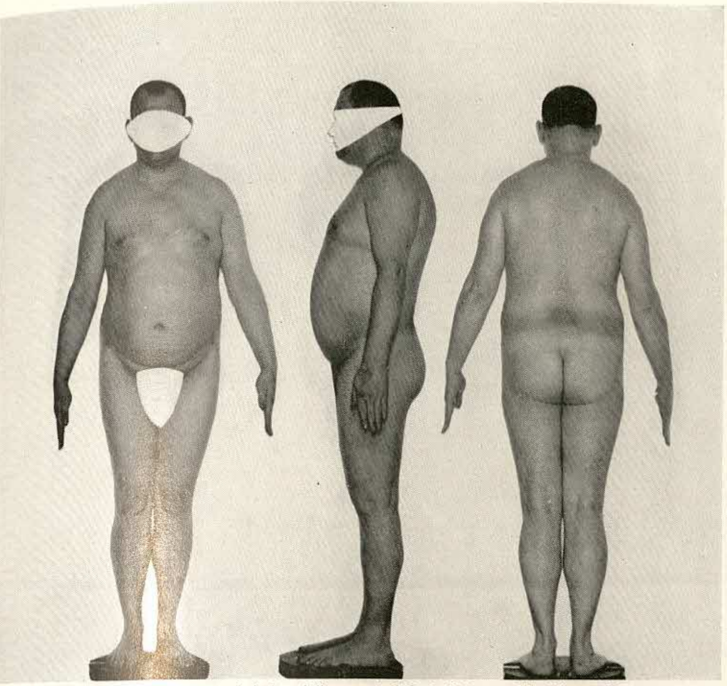


No. 853 *4 6 2* (*3*) 4 6 2–4 6 2 11.92 at 27
4½ 6 1, 4 5½ 2½, 4 6 1½, 4 6 2, 4 5½ 2½

462

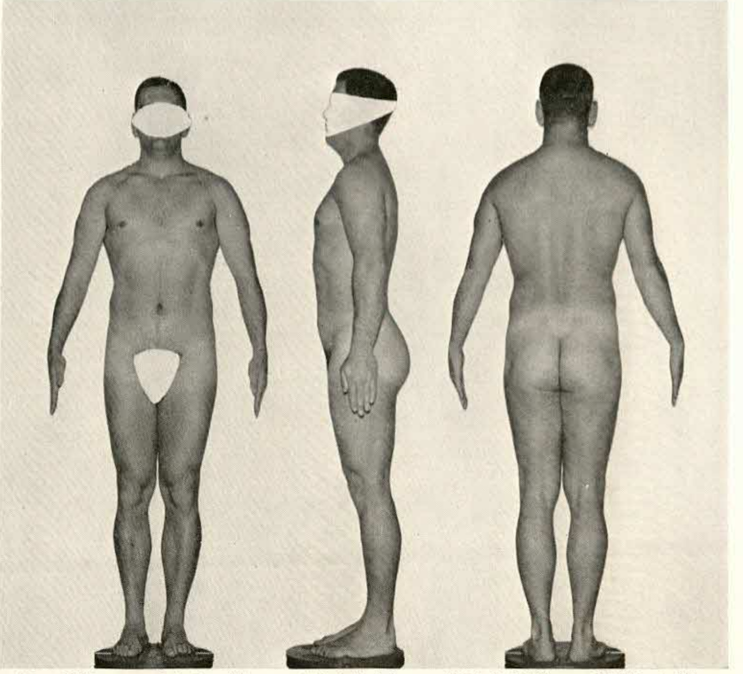


No. 854 *4 6 2* (*4*) 4 6 2–4 6 2 11.49 at 39
4 6 2, 4 6½ 1½, 4 6 2, 4 6 2, 4 6 2

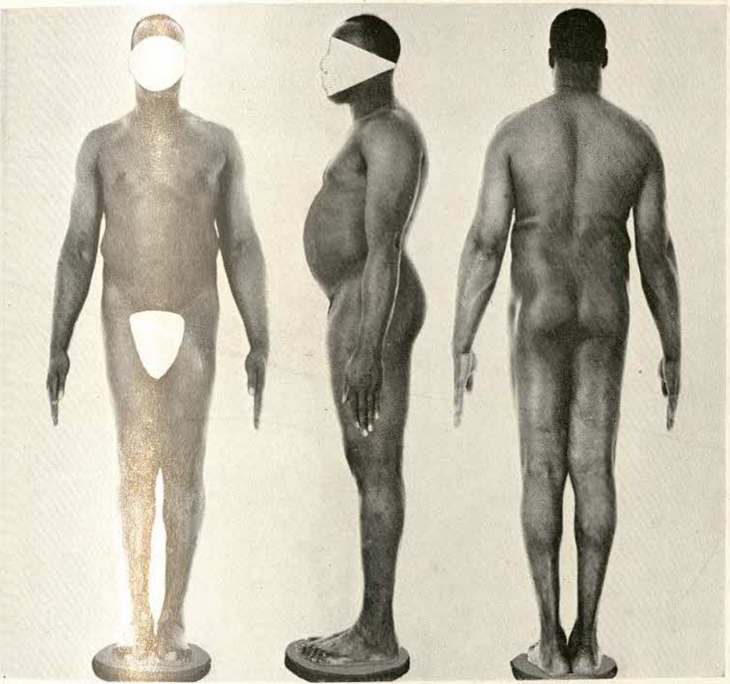


No. 855 *4 6 2* (*5*) 4 6 2–4 6 2 11.24 at 48
4½ 5½ 1½, 4 5½ 2, 4 6 1½, 4 6 2, 4 6 2

462

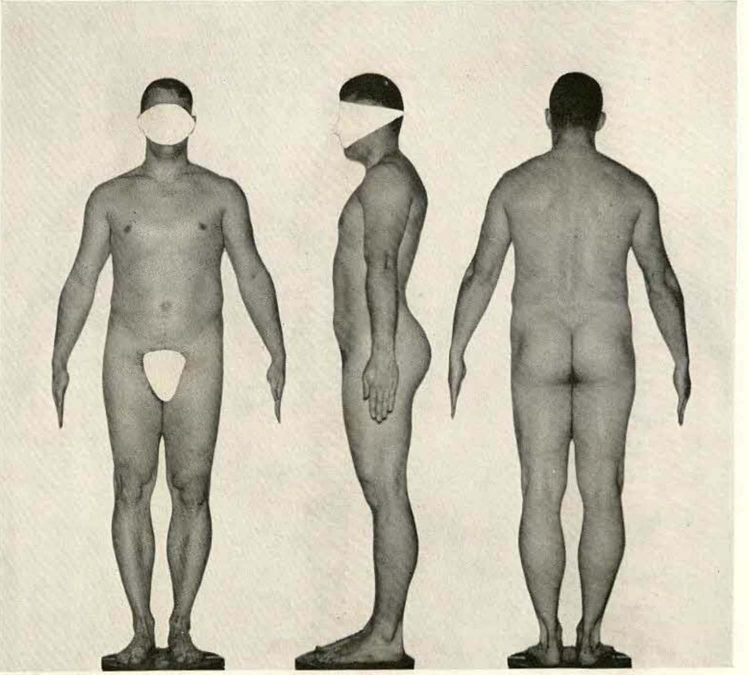


No. 856 *4 6 2* (*6*) 4 6 2–3 6 3 (3½ 6 2½) 12.15 at 28
3½ 6 2½, 3½ 6 2½, 4 6 2, 3½ 6 2½, 4 6 2

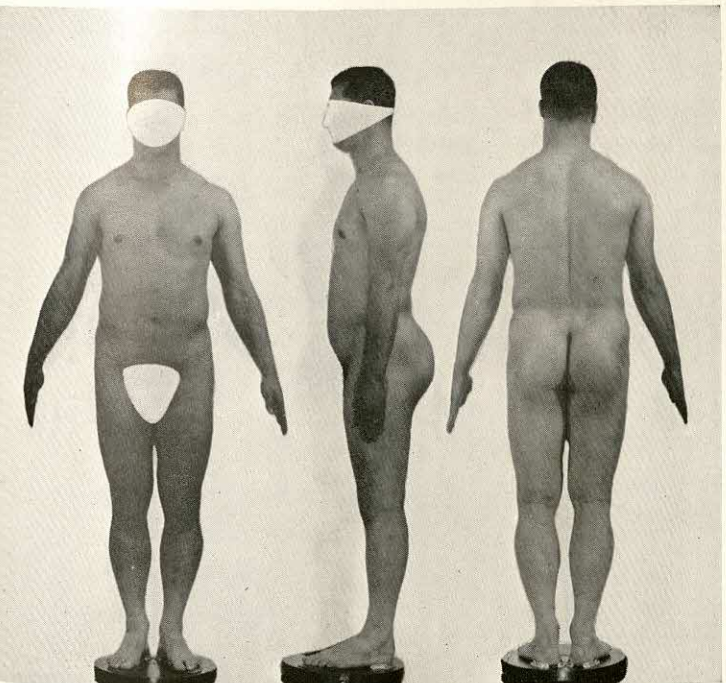


No. 857 *4 6 2* (*7*) 4 6 2–3 6 3 (3½ 6 2½) 11.75 at 42
3 6 2½, 3 6½ 2, 3 6½ 2½, 3½ 6½ 2, 4 5½ 2½

462

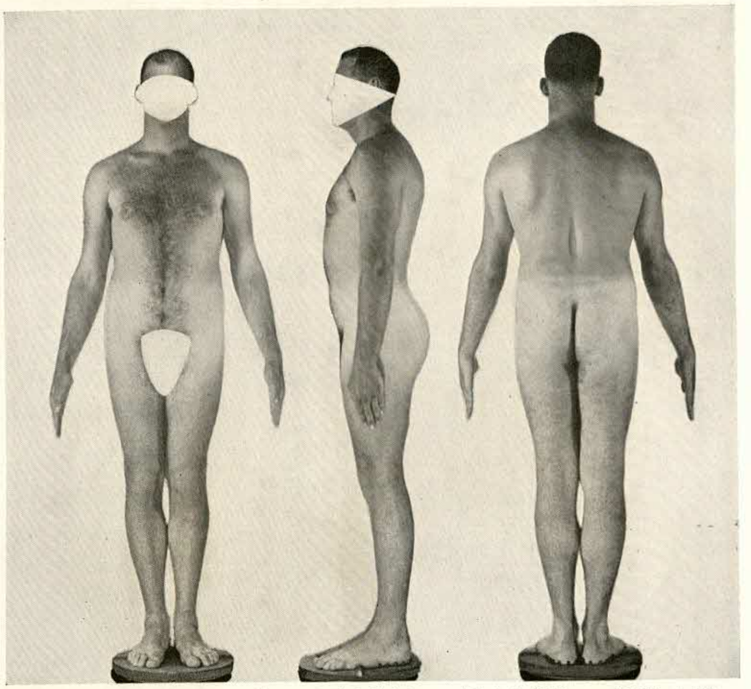


No. 858 *4 6 2* (*8*) 4 6 2–4 7 1 (4 6½ 1½) 12.06 at 19
3½ 6½ 1½, 4 6½ 1½, 4 6½ 1½, 4 6½ 1½, 4 6½ 1½

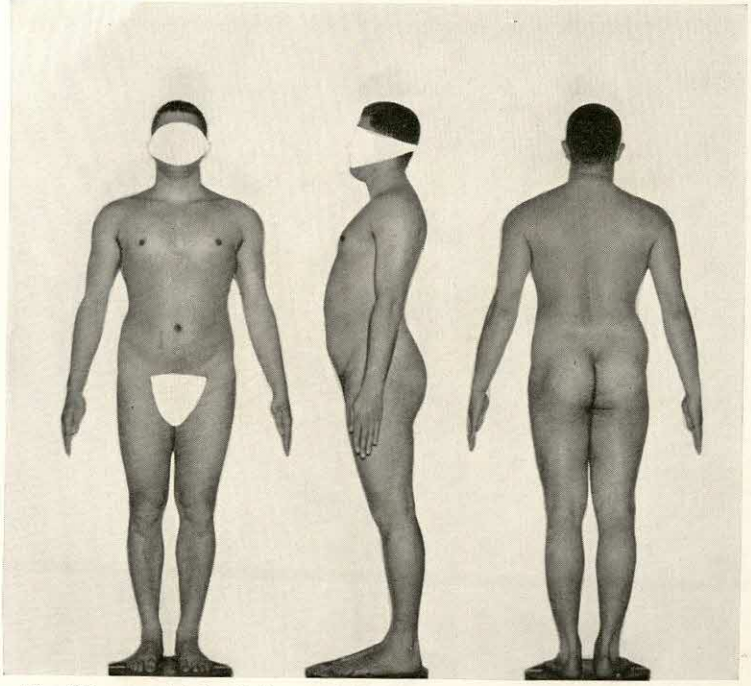


No. 859 *4 6 2* (*9*) 4 6 2–4 7 1 (4 6½ 1½) 11.74 at 24
4 6½ 1½, 4 6½ 1½, 4 6 1½, 4 6½ 1, 4 6½ 1½

462

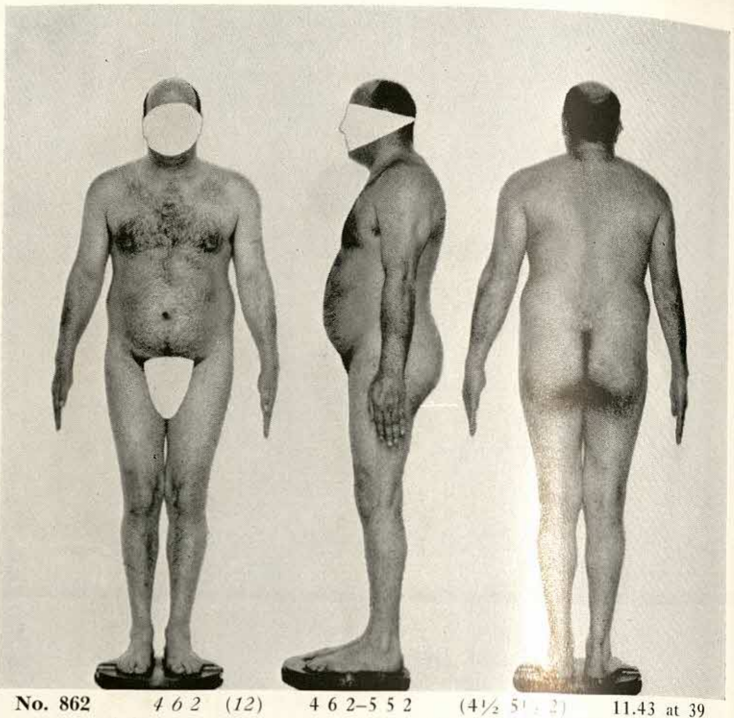


No. 860 *4 6 2* (*10*) 4 6 2–5 5 2 (4½ 5½ 2) 12.30 at 19
4 6 2, 4½ 5½ 2, 4½ 5½ 2½, 4½ 5½ 2, 4½ 5½ 2½

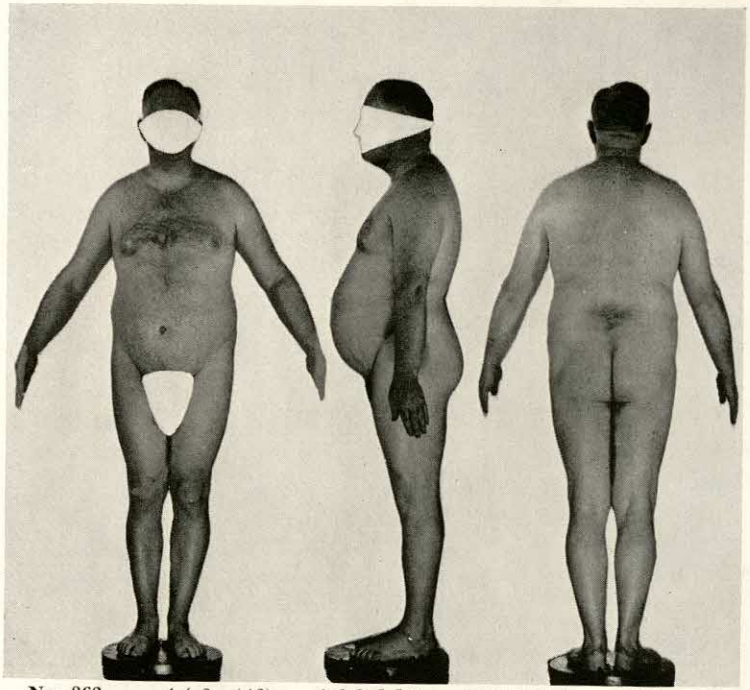


No. 861 *4 6 2* (*11*) 4 6 2–5 5 2 (4½ 5½ 2) 11.80 at 29
4½ 5½ 2, 4 5½ 2, 4½ 5 2½, 4½ 5 2, 4 5½ 2

462

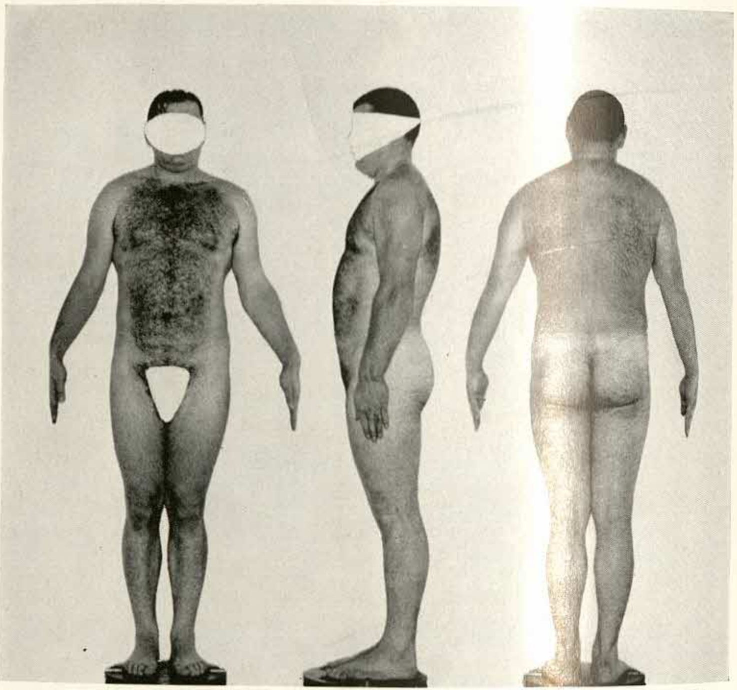


No. 862 *4 6 2* (*12*) 4 6 2–5 5 2 (4½ 5½ 2) 11.43 at 39
4½ 6 1½, 4 6 2, 4½ 5½ 2, 4½ 5½ 1½, 4 5 2½

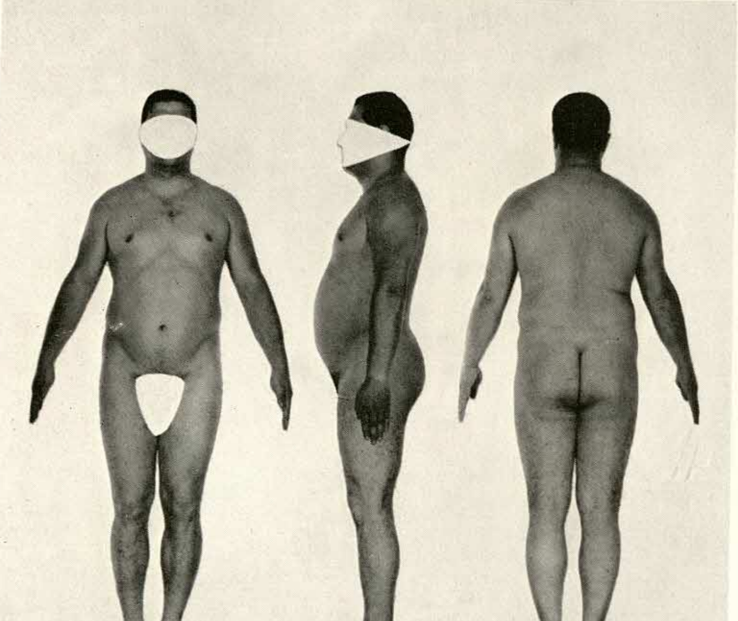


No. 863 *4 6 2* (*13*) 4 6 2–5 5 2 (4½ 5½ 2) 11.20 at 50
4½ 5½ 2, 4½ 5 2, 5 5½ 1, 5 5½ 1½, 4½ 5 2½

462

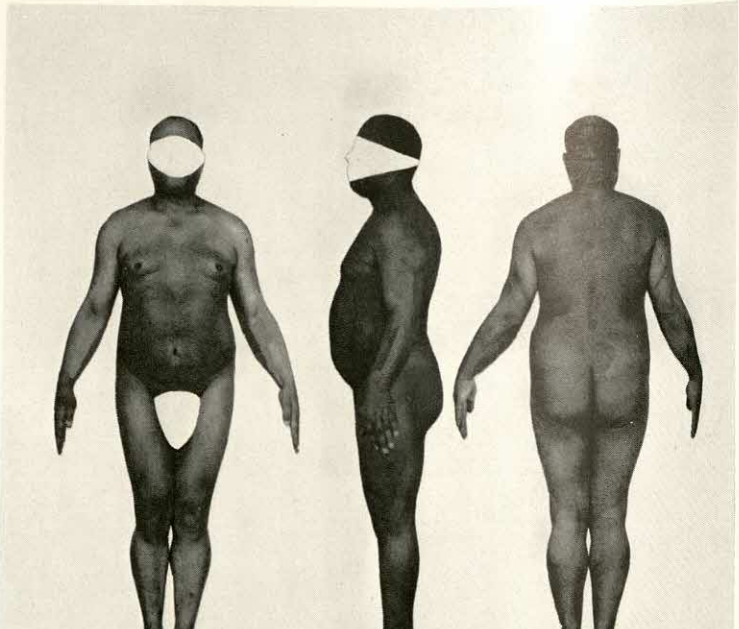


No. 864 *4 6 2* (*14*) 4 6 2–5 6 1 (4½ 6 1½) 11.70 at 24
4½ 5½ 1, 4½ 6 1½, 4 6 1½, 4½ 6 1½, 5 5½ 1½



No. 865 *4 6 2* (*15*) 4 6 2–5 6 1 (4½ 6 1½) 11.25 at 32
4½ 6 1½, 4 6 1½, 4½ 6 1, 4½ 5½ 1½, 4½ 5½ 1½

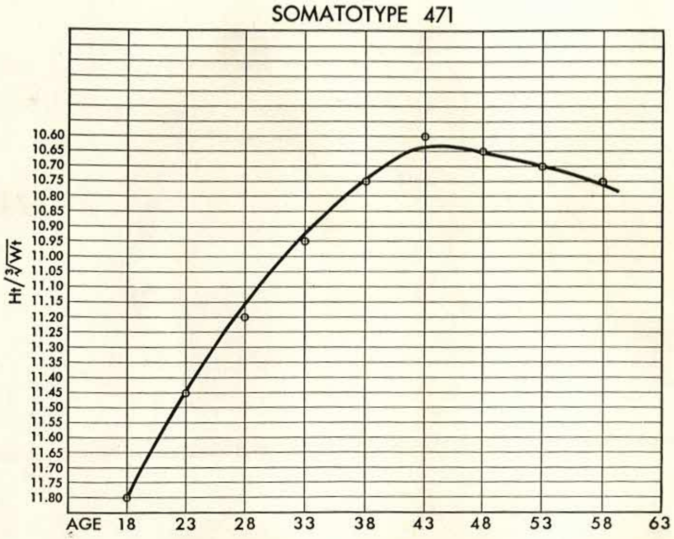
462

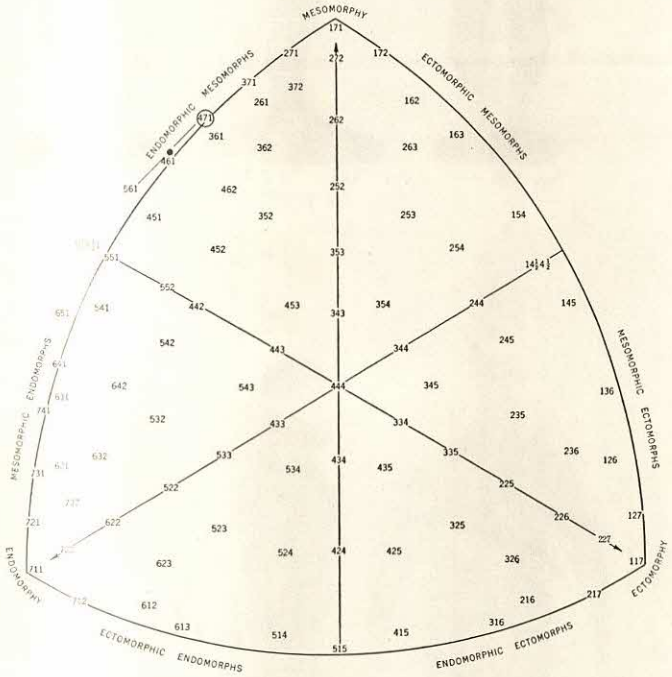


No. 866 *4 6 2* (*16*) 4 6 2–5 6 1 (4½ 6 1½) 10.96 at 54
4½ 6 1½, 4 6 1, 4½ 6 1, 4½ 6 1½, 4 6 1½

28. A SUPERBEAR

Somatotype 4 7 1 *(Endomorphic polar mesomorphy at extreme ectopenia, 12-level.) The Arctothere. Huge American bear of Pleistocene times, about the size of a modern rhinoceros. Of the great European cave bear, Arctothere could have made a dinner. Nos. 867–872.*





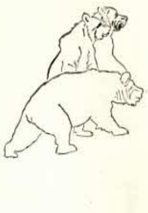
Weight for Age and Height

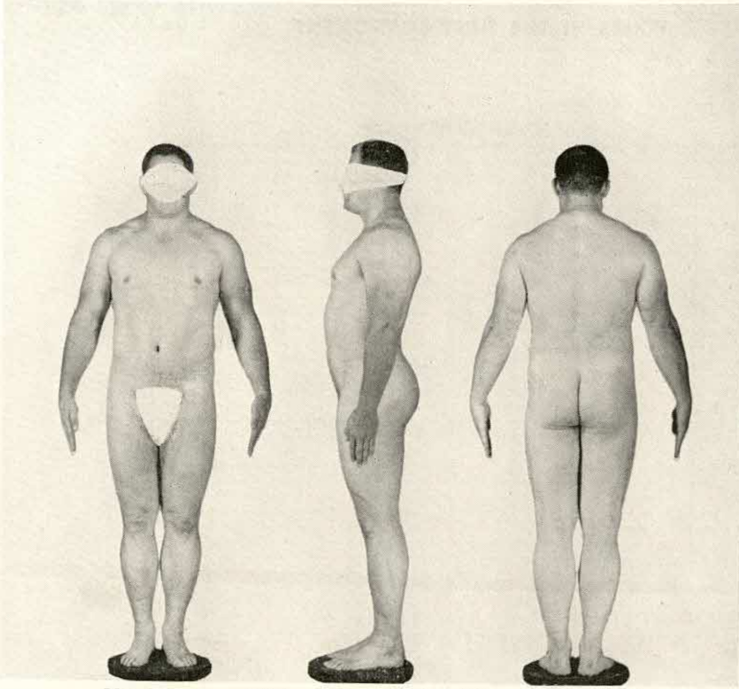
Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	258	279	301	321	341	356	352	346	341	..
74	247	268	288	308	327	342	337	332	327	..
73	237	257	276	295	312	330	324	317	312	..
72	227	247	265	283	300	316	310	305	300	..
71	219	237	254	272	287	303	298	292	287	..
70	210	227	244	261	275	289	285	280	275	..
69	202	218	234	250	264	278	273	268	264	..
68	193	209	224	239	253	266	262	257	253	..
67	184	200	214	228	241	253	250	245	241	..
66	176	191	205	218	231	242	239	235	231	..
65	168	182	195	209	220	231	228	224	220	..
64	160	174	186	199	210	221	218	214	210	..
63	153	166	178	190	201	211	208	204	201	..
62	146	158	169	181	191	201	198	194	191	..
61	139	151	161	172	182	191	189	185	182	..

Rarity 4. Incidence 3 per thousand. The three great bears—the 4 6 1, 4 6 2 and 4 7 1—make up between them slightly more than 1 per cent of the male population. They are deep in heavyweight territory, and are far out on the edge of the distribution in the extreme Northwest. The North*eastern* counterparts of the great bears would be the somatotypes 1 6 4, 2 6 4 and 1 7 4. Nature does not produce any of these, or if she does we have never seen them. Their nearest cousins that we have seen would be the 1 6 3, 2 6 3 and 1 7 2. Thus the distribution of the somatotypes as we encounter them is not a symmetrical one, with equal weight in the Northwest, Northeast and South, but the distribution is quite heavily weighted to the Northwest. The triangulated miniature range of mountains with which we might represent this distribution, with the spur of foothills trailing off to the North, Southwest and Southeast, and with the horseshoe-like bend bulging out to the Northwest, Northeast and South, would terminate in a thin edge along the Northeastern and Southern boundaries but would be thick like a wedge of pie along the Northwestern boundary.

If the 3 7 2 is the prototype for the professional fullback, the 4 7 1 would be the professional football man of the line—guard, tackle or center, and possibly we should have named this somatotype after the Chicago, rather than the Pleistocene Bears.

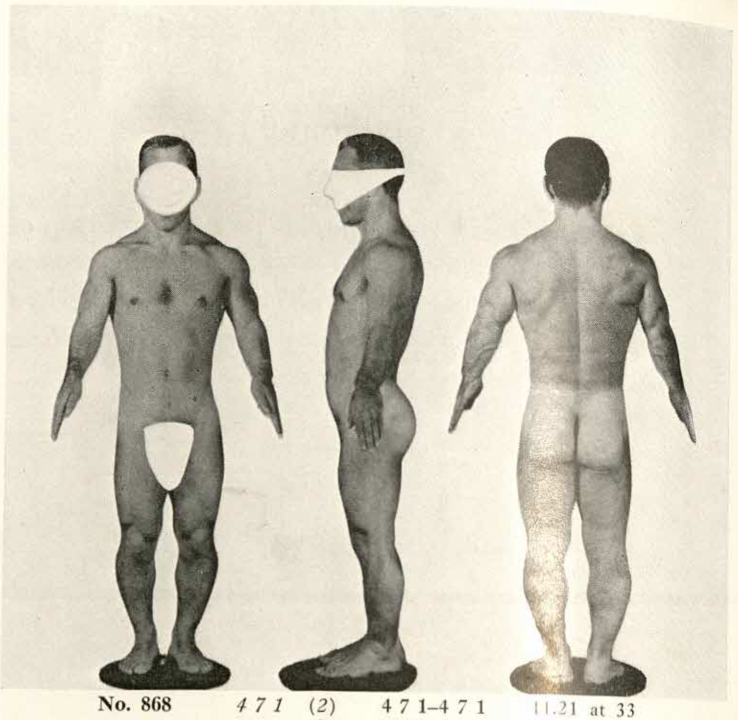
On the Plate, No. 868 is mildly achondroplastic and in a state of extreme athletic training. No. 870 is acromegalic. Both have achieved outstanding athletic eminence. No. 868 illustrates a difficulty. His weight history and present data are consistent with the somatotype 4 7 1. His appearance, with the foreshortened bones, suggests a stunted 2 7 1.



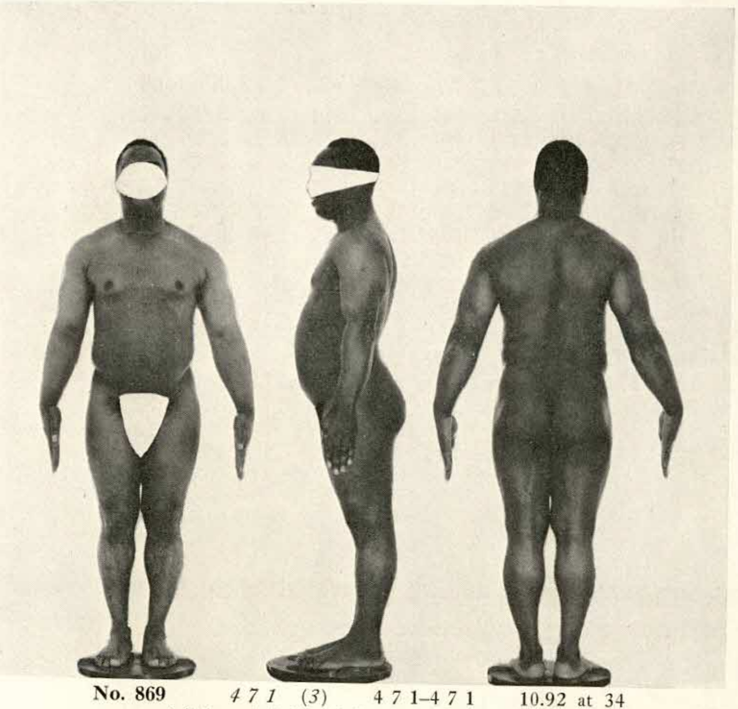


No. 867 *4 7 1* (*1*) 4 7 1–4 7 1 11.22 at 27
3½ 6½ 1, 4 7 1, 4 6½ 1½, 4 7 1, 4 7 1

471

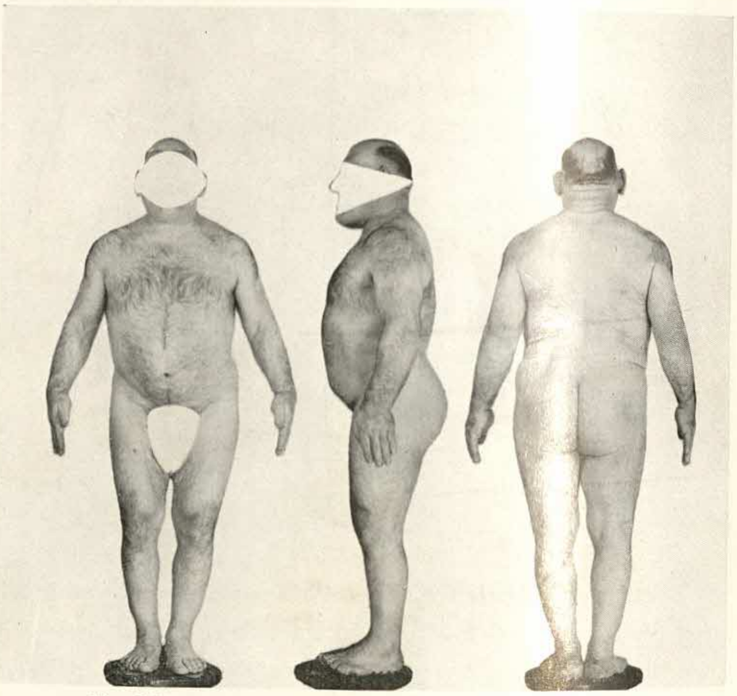


No. 868 *4 7 1* (*2*) 4 7 1–4 7 1 11.21 at 33
See p. 247.

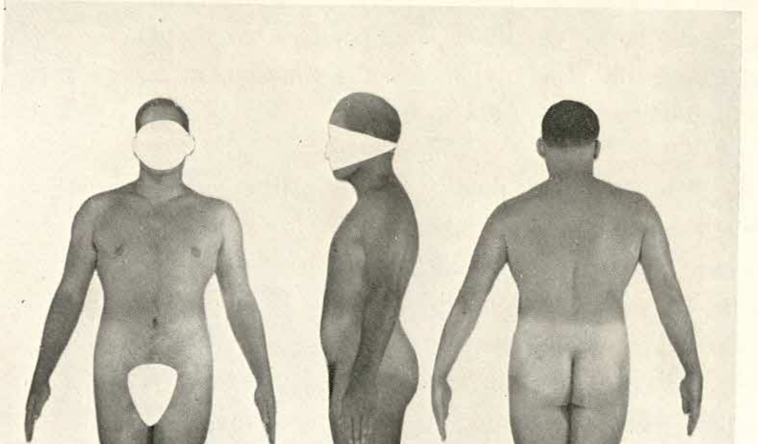


No. 869 *4 7 1* (*3*) 4 7 1–4 7 1 10.92 at 34
4 7 1, 4 7 1, 4 7 1, 4 7 1, 4 7 1

471

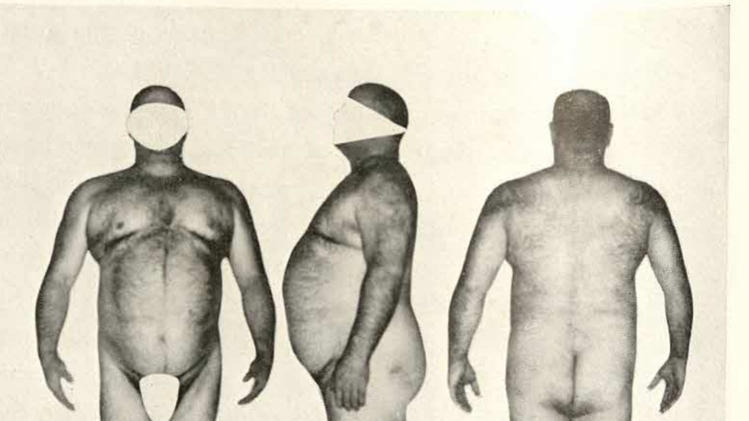


No. 870 *4 7 1* (*4*) 4 7 1–4 7 1 10.58 at 41
4 7 1, 4 6½ 1, 4 7 1, 4 7 1, 4½ 6 1½



No. 871 *4 7 1* (*5*) 4 7 1–5 6 1 (4½ 6½ 1) 11.73 at 19
4½ 6½ 1, 4½ 6½ 1, 4 6 1½, 4½ 6½ 1, 5 6 1

471



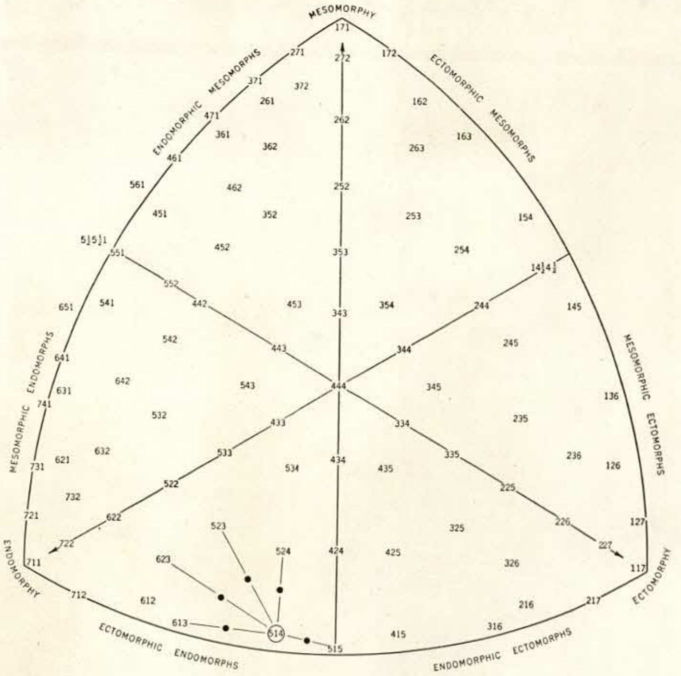
No. 872 *4 7 1* (*6*) 4 7 1–5 6 1 (4½ 6½ 1) 10.68 at 53
4½ 6½ 1, 4½ 6½ 1, 4½ 6 1, 5 6 1, 4½ 6½ 1½

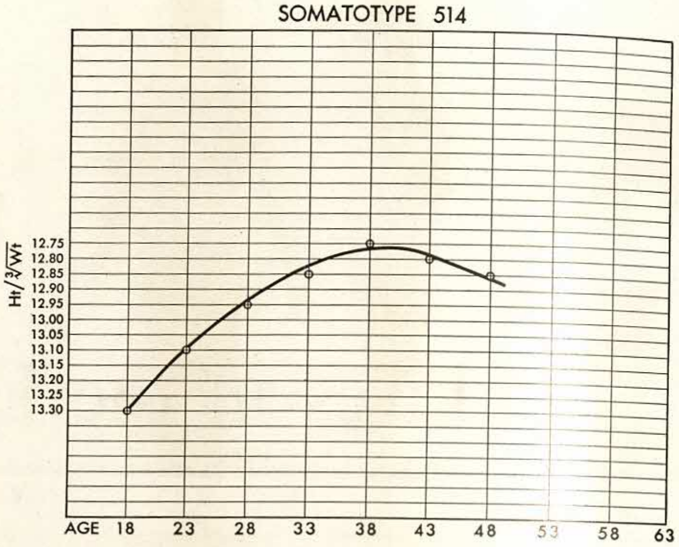
10

Fives in the First Component

29. KIWIS

Somatotype 5 1 4 *(Ectomorphic endomorphy at extreme mesopenia, 10-level.) Little capons and kiwis. Long-legged, long-necked and frail-winged but fat-bodied fellows, harmless and inoffensive to all, but the natural prey of everything with a taste for meat. Nos. 873–879.*





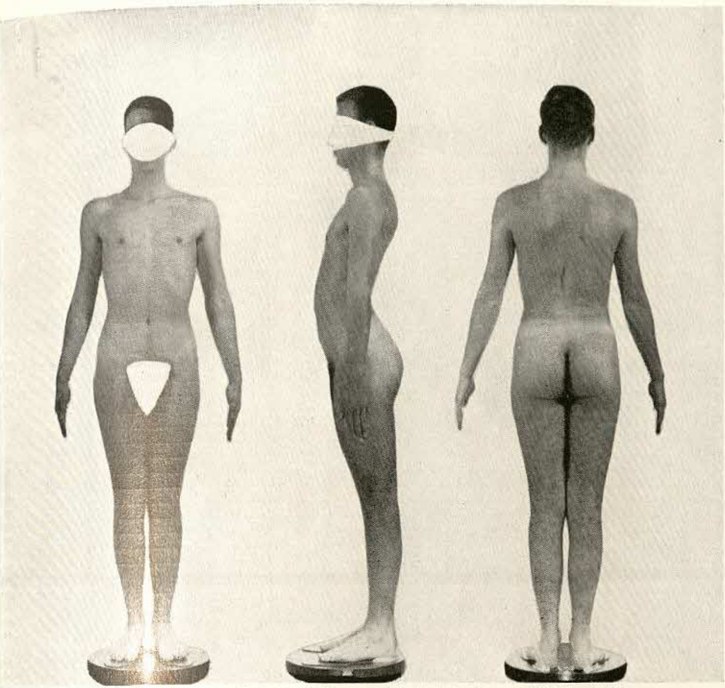
Weight for Age and Height

Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	179	187	193	198	202	201	198	..	..	..
74	172	179	186	190	194	193	190	..	..	..
73	165	172	179	183	187	186	183	..	..	..
72	158	165	170	175	179	178	175	..	..	..
71	152	158	164	168	172	171	168	..	..	..
70	146	152	157	162	165	164	162	..	..	..
69	140	146	151	155	158	157	155	..	..	..
68	134	139	144	148	151	150	148	..	..	..
67	128	133	137	142	144	143	142	..	..	..
66	122	127	131	135	138	137	135	..	..	..
65	116	121	126	129	132	131	129	..	..	..
64	111	116	120	123	126	125	123	..	..	..
63	106	110	114	118	120	119	117	..	..	..
62	101	105	109	112	114	113	112	..	..	..
61	96	100	104	107	109	108	107	..	..	..

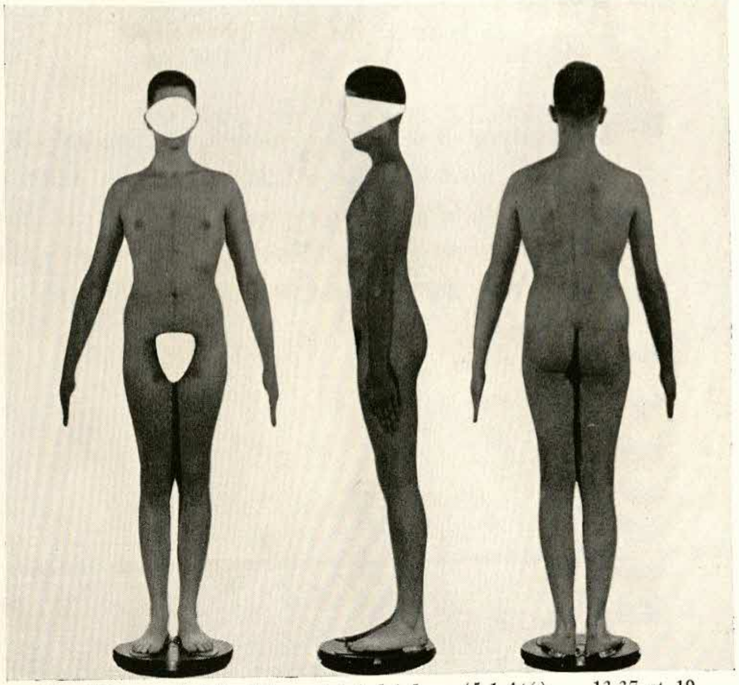
Rarity 5. Incidence 3 per ten thousand. In nature, a great rarity. Possibly the survival of the 5 1 4 at all as an adult male in a human society should be attributed to the operation of cultural rather than biological influences. Like the 4 1 5, and all of the down under somatotypes, this one is found far more frequently among women than among men, and as a male it is on the borderline of viability. We do find 5 1 4's in American society, however, particularly in academic life and among the aesthetes, and the question is appropriate, Would 5 1 4's be found in a sample of population living under harder or sterner conditions? Are there Japanese 5 1 4's? Russian 5 1 4's? Aleutian 5 1 4's? We do not know, for no satisfactory sample of any of these peoples has yet been photographed and studied from a constitutional point of view.

Another interesting question is this: Since we now have a sample of enough women to be certain that this somatotype is commoner as a female than as a male, does it follow that more female than male 5 1 4's are born? Or is this a matter of ratio of postnatal survival? The answer is probably in favor of the first alternative, since we already know that some of the somatotypes that are fairly common in men (extreme mesomorphs) do not occur in women at all, and some of the somatotypes regularly seen in women do not occur at all in the male. But are more 5 1 4 females than males *conceived*, or does the factor of preferential survival of the different somatotypes operate during intra-uterine life, and does it operate differently in the two sexes?

514

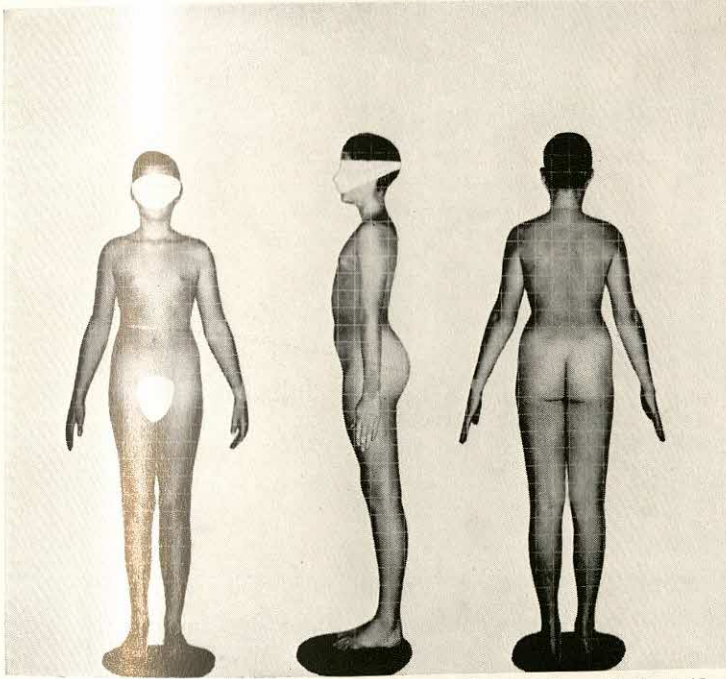


No. 873 *5 1 4* (*1*) 5 1 4–5 1 4 13.29 at 18
4½ 1 5, 4½ 1 5, 5 1 4, 5 1 4, 5 2 3

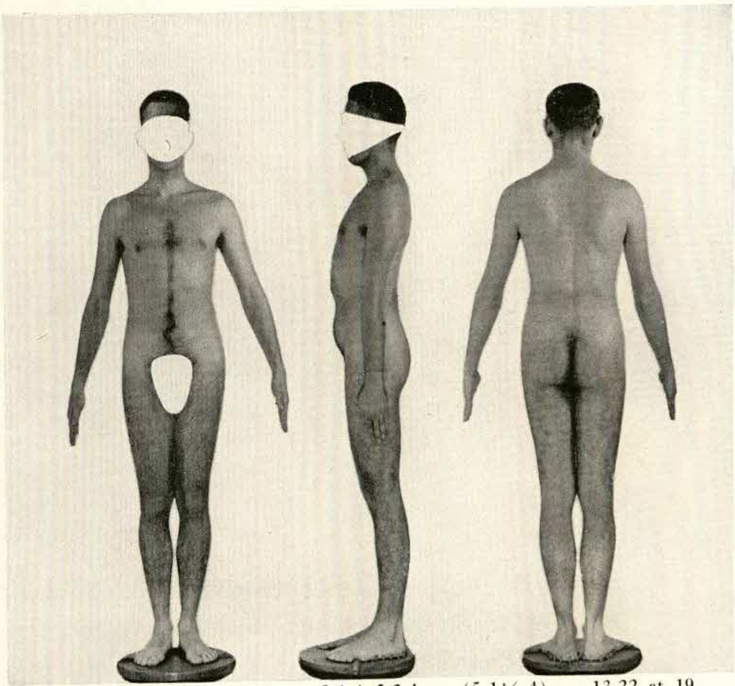


No. 874 *5 1 4* (*2*) 5 1 4–5 1 5 (5 1 4½) 13.37 at 19
4 1 5, 5 1 4½, 5 1 4½, 5 1 4½, 5 1½ 4½

514

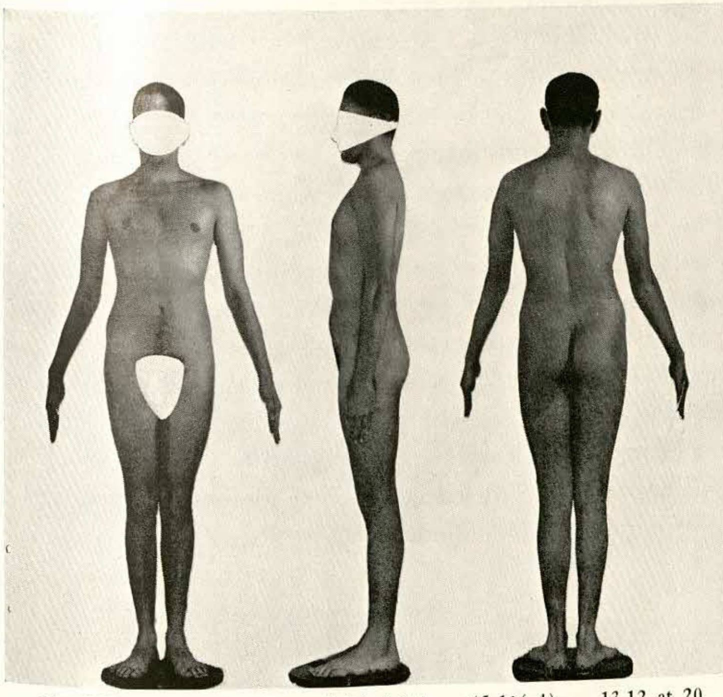


No. 875 *5 1 4* (*3*) 5 1 4–5 2 3 (5 1½ 3½) 13.16 at 18
4½ 1 4½, 4½ 2 3½, 5 1½ 3½, 5 1½ 3½, 5 2 3

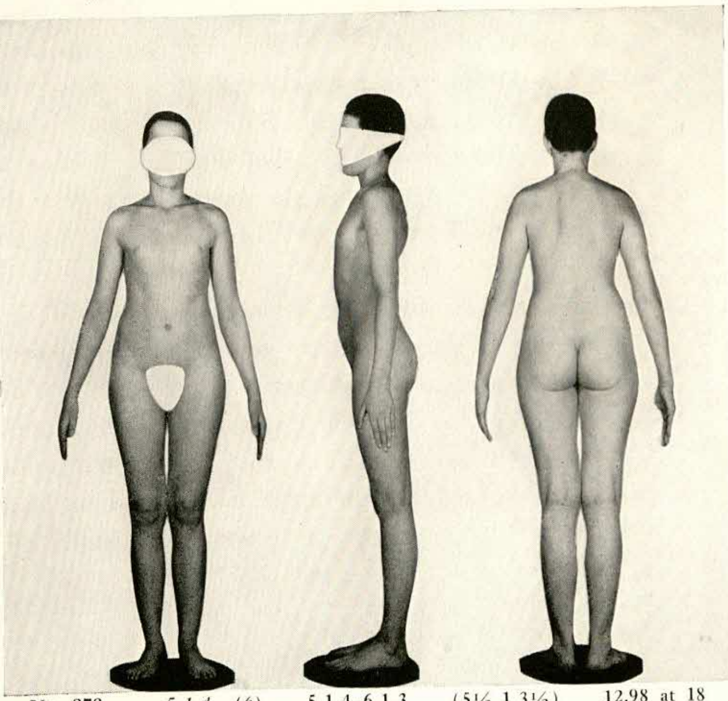


No. 876 *5 1 4* (*4*) 5 1 4–5 2 4 (5 1½ 4) 13.22 at 19
4½ 1½ 4½, 4½ 1½ 4, 5 1½ 4½, 5 1½ 4, 5 2 3½

514

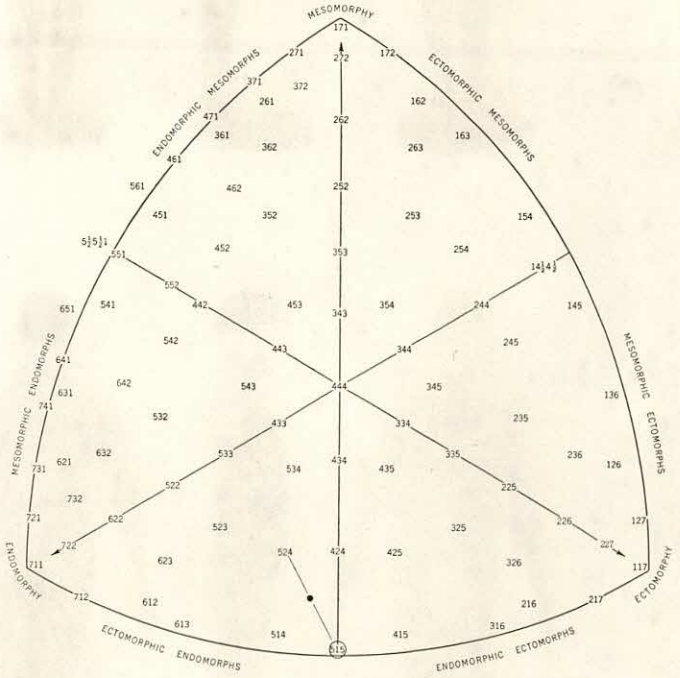


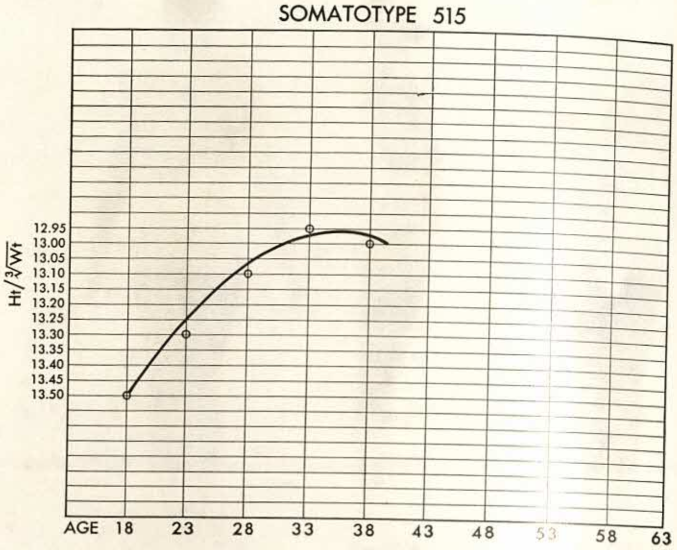
No. 877 *5 1 4* (*5*) 5 1 4–5 2 4 (5 1½ 4) 13.12 at 20
4½ 2 4, 5 1½ 4, 5 1½ 4½, 5 1½ 4, 5 1½ 4



No. 878 *5 1 4* (*6*) 5 1 4–6 1 3 (5½ 1 3½) 12.98 at 18
5½ 1 3½, 5½ 1 3½, 5½ 1 4½, 5½ 1 3½, 5½ 2 3

Somatotype 5 1 5 *(An endomorph-ectomorph at extreme mesopenia, 11-level.) Bigger capons and kiwis. Stilt-limbed, helpless and frangible creatures with fattening bodies, whose only offense might be to stop eating and so fail to fatten for the predators. Nos. 880–881.*





Weight for Age and Height

Height (inches)	Age									
	18	23	28	33	38	43	48	53	58	63
75	172	180	187	194	192	..	..	..	..	..
74	165	173	179	187	184	..	..	..	..	..
73	159	166	172	180	177	..	..	..	..	..
72	153	160	166	173	171	..	..	..	..	..
71	146	153	158	165	163	..	..	..	..	..
70	140	146	152	158	156	..	..	..	..	..
69	134	140	146	152	150	..	..	..	..	..
68	128	134	139	145	143	..	..	..	..	..
67	122	128	133	139	137	..	..	..	..	..
66	117	122	127	132	130	..	..	..	..	..
65	111	117	121	126	124	..	..	..	..	..
64	106	111	116	121	119	..	..	..	..	..
63	101	106	110	115	113	..	..	..	..	..
62	97	101	105	110	108	..	..	..	..	..
61	92	96	100	104	103	..	..	..	..	..

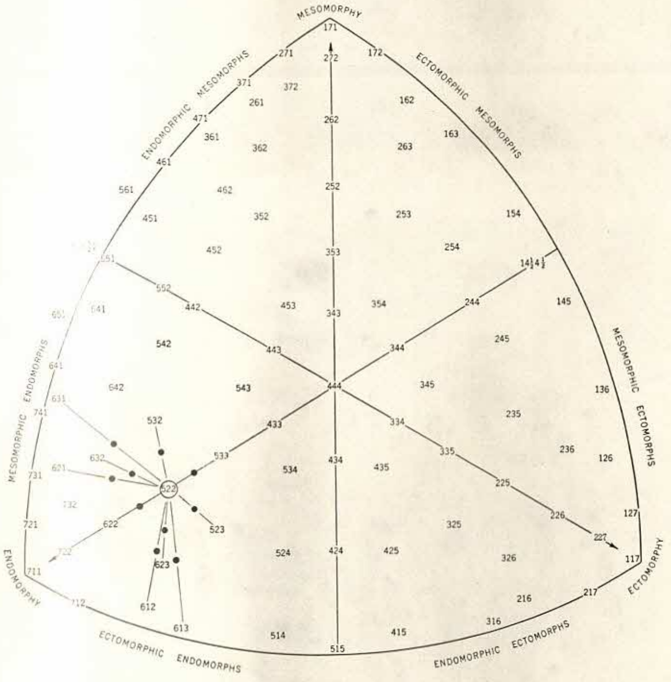
Rarity 5. Incidence 1 per ten thousand. So rare that its existence in the male may be justly controversial, although it certainly occurs in the female. It is possible that some of the half dozen or so men to whom we have assigned this somatotype could have been catalogued defensibly at another, adjoining point on the distribution. But in at least two instances, among a sample of more than forty thousand, the 5 1 5 seems indisputable, and so the rarest stamp of all is included in the collection. With a load of 10 to 1 against the second component, this is the farthest down of all the mesopenes from down under.

Since we have found no evidence of a male 5 1 5 past age 40, and since all of the other closely related somatotypes—the extreme mesopenes—found in the near neighborhood of the 5 1 5 have shown very similar nutrition curves, we have drawn the curve for this great rarity as the slender evidence indicates. This should not be taken to imply that any particular person who looks like a 5 1 5 is necessarily short lived. It means only that we did not find that somatotype among the older age groups included in the series.

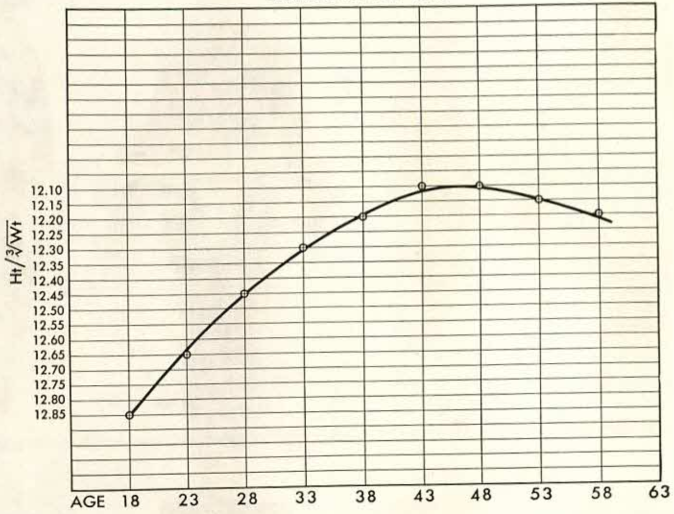
It happens that all of the 5 1 5's seen in this study, and also nearly half of the 5 1 4's, showed varying degrees of the picture seen in the Froehlich syndrome—sexual underdevelopment with obesity or "*dystrophia adiposogenitalis.*" This characteristic appears to be closely associated with endomorphic mesopenia, and when seen with *extreme* mesopenia, as in the 5 1 5 or 5 1 4, the response to testosterone and other hormone therapy has in our experience been uniformly negligible. When the Froehlich condition is seen in such a somatotype as the 5 3 4, however, hormone therapy sometimes not only hastens the sprouting of pubic hair but gives the individual for the time being a more sprightly, or superficially a less mesopenic appearance. This effect of course disappears when the treatment is discontinued.

30. UNDER-THE-BARN KITTIES

Somatotype 5 2 2 *(Balanced endomorphy, 9-level.) The Florida spotted under-the-barn kitty. Gentle and affectionate, with a weak fat body, short legs, a bushy tail and a strong musky perfume. A delightful pet with the virtues but without the predatory vices of a kitten. Nos. 882–901.*



SOMATOTYPE 522



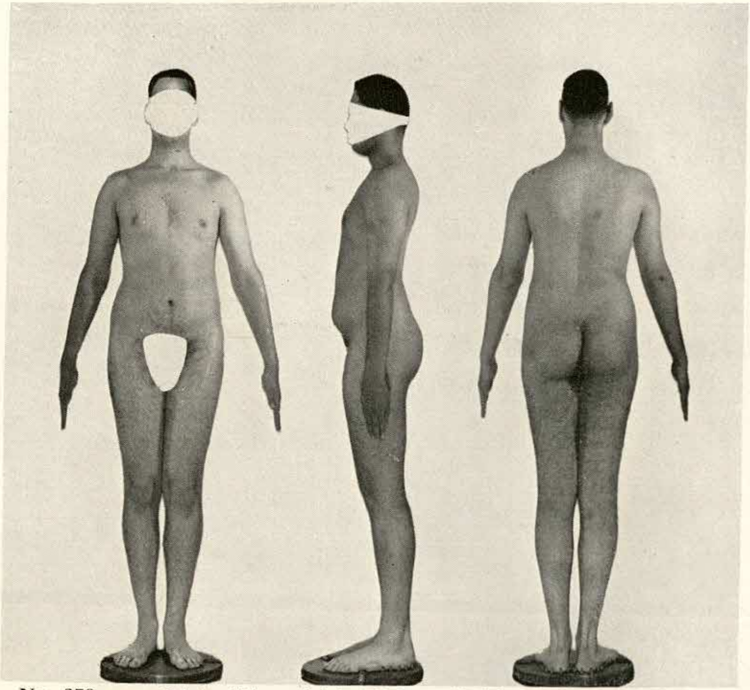
Weight for Age and Height

Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	199	209	219	224	231	236	239	236	231	..
74	191	201	210	216	222	227	229	226	222	..
73	184	193	202	208	214	218	221	218	214	..
72	177	186	194	200	206	210	212	209	206	..
71	169	177	185	191	197	201	203	200	197	..
70	162	170	178	183	189	193	195	192	189	..
69	156	163	170	176	181	185	187	184	181	..
68	149	156	163	168	173	177	179	176	173	..
67	142	149	156	161	166	169	171	168	166	..
66	136	142	149	154	158	161	163	161	158	..
65	130	136	142	147	151	154	156	154	151	..
64	124	130	135	140	144	147	148	146	144	..
63	118	124	129	134	137	140	141	140	137	..
62	113	118	123	127	131	134	135	133	131	..
61	107	113	117	121	125	127	128	127	125	..

Rarity 5. Incidence 5 per ten thousand. A rarity in the male. Usually a short, dumpy little man who may give a first impression of being more compact than he is. On second look, you note the lack of mesomorphy throughout, and this is generally most conspicuous in the extremities—the hands and feet, which are likely to be small and comparatively flaccid. If in doubt about a possible 5 2 2, the best thing to do is shake hands with him. If you get hurt, he is not a 5 2 2. If he walks with a brisk, ground-covering pace, or even if he particularly likes to walk at all, the chances are good that he is not closely related to the 5 2 2. The 5 2 2 walks with a leisurely amble, like the bear family.

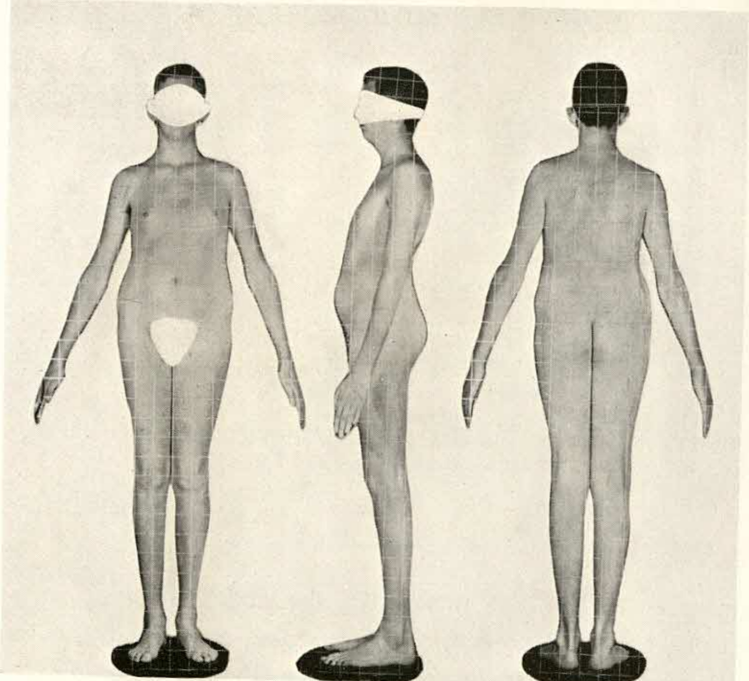
This somatotype has one compensating advantage which may atone for its general muscular ineptitude. It tends to be at home in the water. The 5 2 2 is never a strong swimmer, but he won't sink, and this is equally true of all the mesopenic somatotypes that are at 5 or more in endomorphy. (When not mesopenic, the endomorphs tend to be expert or even competitive swimmers.) The 5 2 2 is seen perhaps as disproportionately often among the swarms at the metropolitan bathing beaches as the 2 2 5 is seen on the hebephrenic wards. He usually likes just to sit in the sand, but he will occasionally splash around and on a hot day may even swim a little.

All the somatotypes at the 9-level are somehow on the extreme edge of things. These in a sense are biologically *radical* people—radical departures from safety and security, and from the middle way. Many of the biological radicals turn up in the mental hospitals, among them a good representation of 5 2 2's, and usually on the hebephrenic wards.

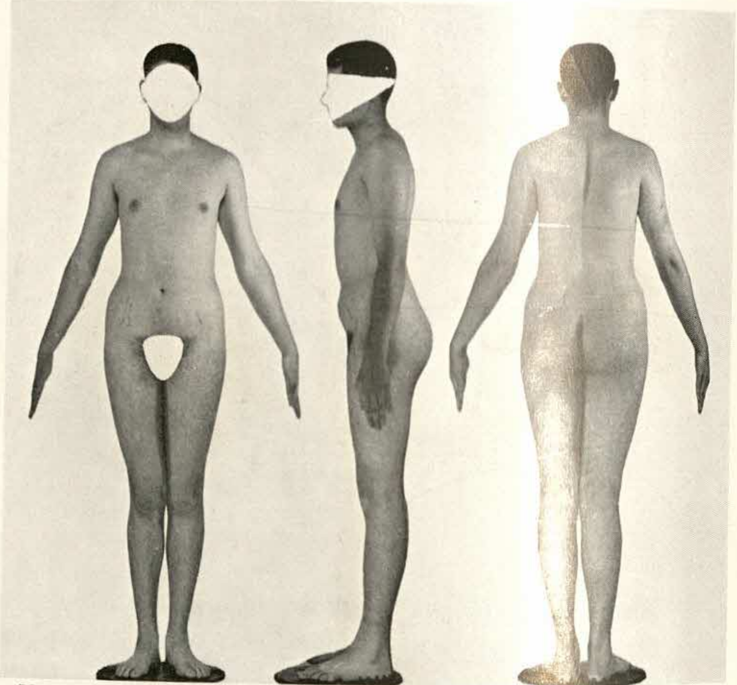


No. 879 *5 1 4* (*7*) 5 1 4–6 2 3 (5½ 1½ 3½) 12.88 at 19
5 1½ 3½, 5½ 1½ 3, 5½ 2 3½, 5½ 1½ 3½, 5½ 2 3

515

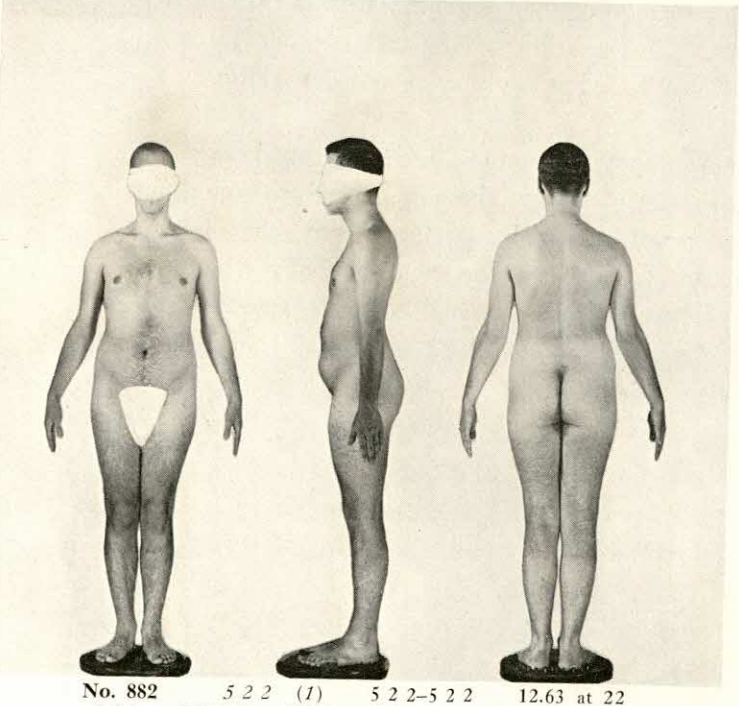


No. 880 *5 1 5* (*1*) 5 1 5–5 1 5 13.54 at 17
5 1 5, 5 1 5, 4 1 6, 5 1 5, 5 1 5

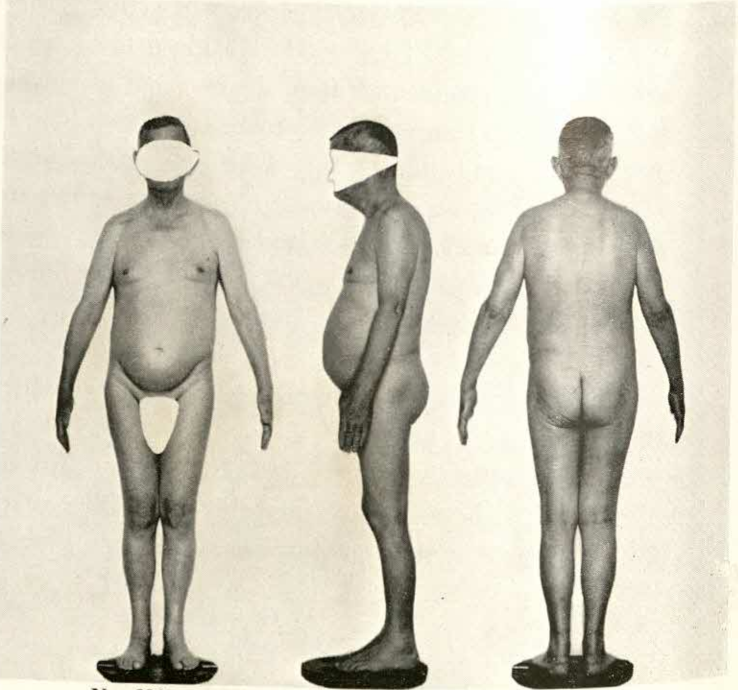


No. 881 *5 1 5* (*2*) 5 1 5–5 2 4 (5 1½ 4½) 13.30 at 19
5 2 4, 5 1½ 4½, 5 1½ 4½, 5 1½ 4½, 5 2 4½

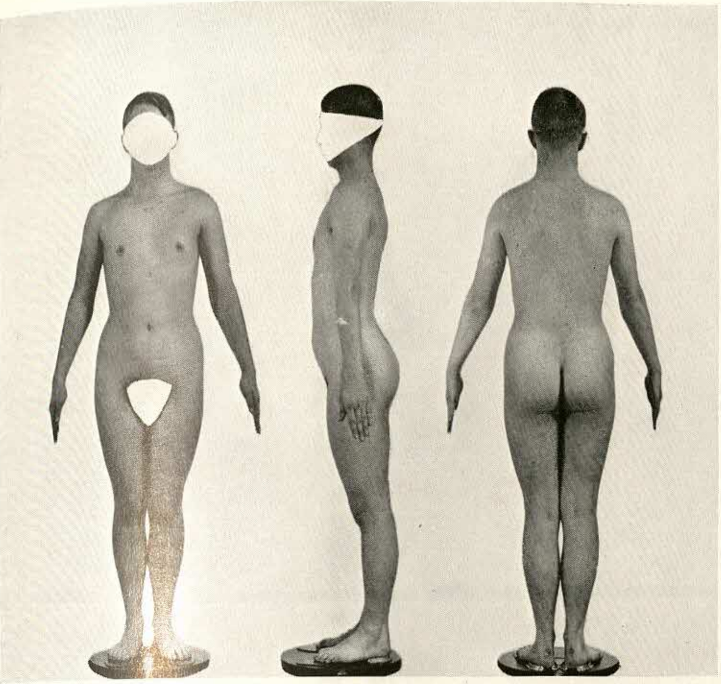
522



No. 882 *5 2 2* (*1*) 5 2 2–5 2 2 12.63 at 22
4 2 4, 5 2½ 2, 5 2 2, 5½ 2 1½, 5½ 2½ 1½

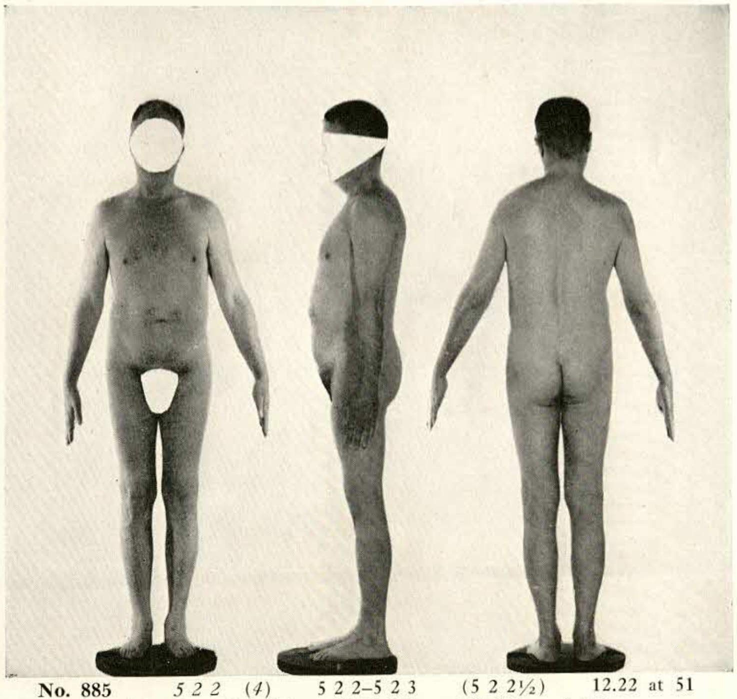


No. 883 *5 2 2* (*2*) 5 2 2–5 2 2 12.17 at 54
5½ 2 2, 5 2 2, 4½ 2 2½, 5 2 2, 5 2 2½

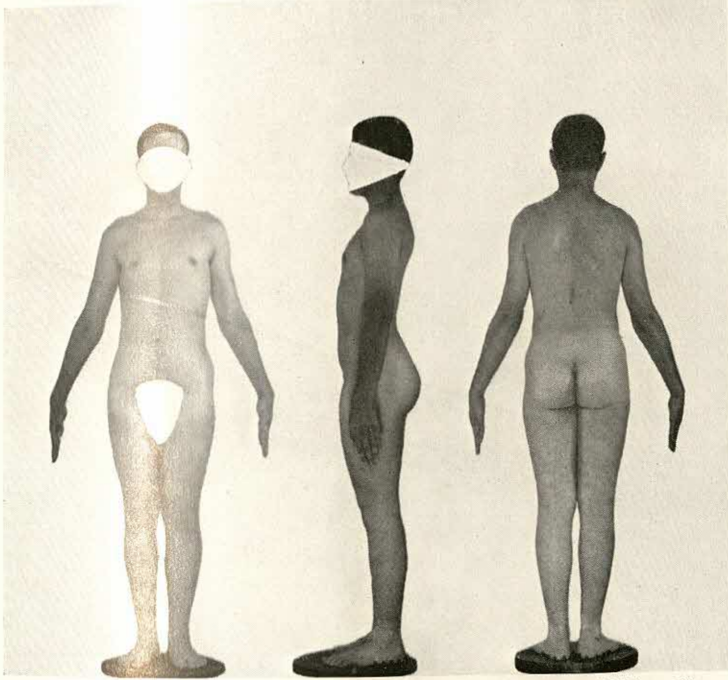


No. 884 *5 2 2* (*3*) 5 2 2–5 2 3 (5 2 2½) 12.92 at 18
4½ 2½ 2½, 5 2 3, 5 1½ 3½, 5½ 1½ 3, 5½ 3 1½

522

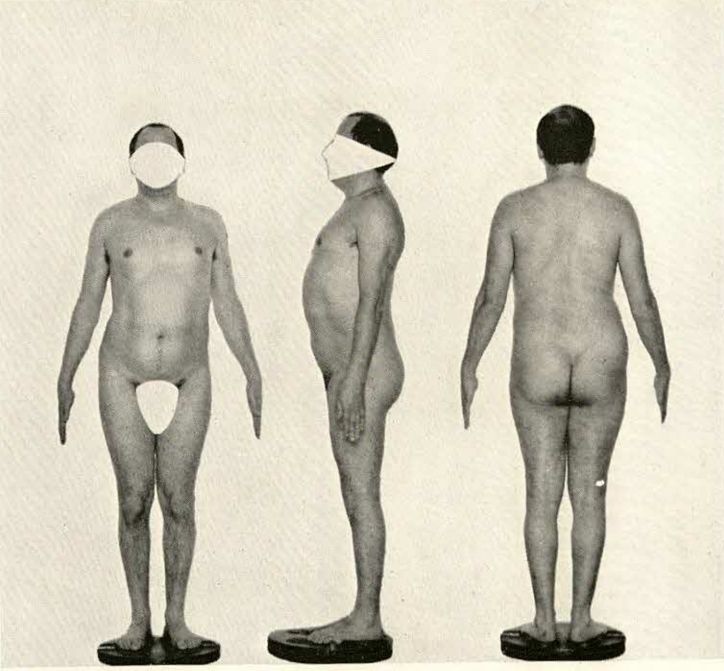


No. 885 *5 2 2* (*4*) 5 2 2–5 2 3 (5 2 2½) 12.22 at 51
5 2 2½, 5 2 2½, 5 2½ 2½, 5 2 2½, 5 2 3

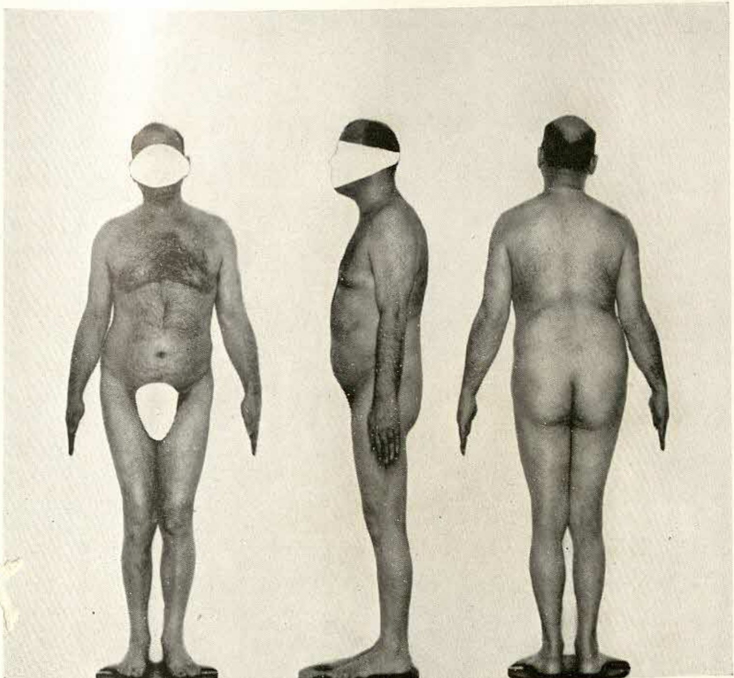


No. 886 *5 2 2* (*5*) 5 2 2–5 3 2 (5 2½ 2) 12.74 at 19
5 2 2½, 5 2 2½, 5 3 2, 5 2½ 2, 5 3 1½

522

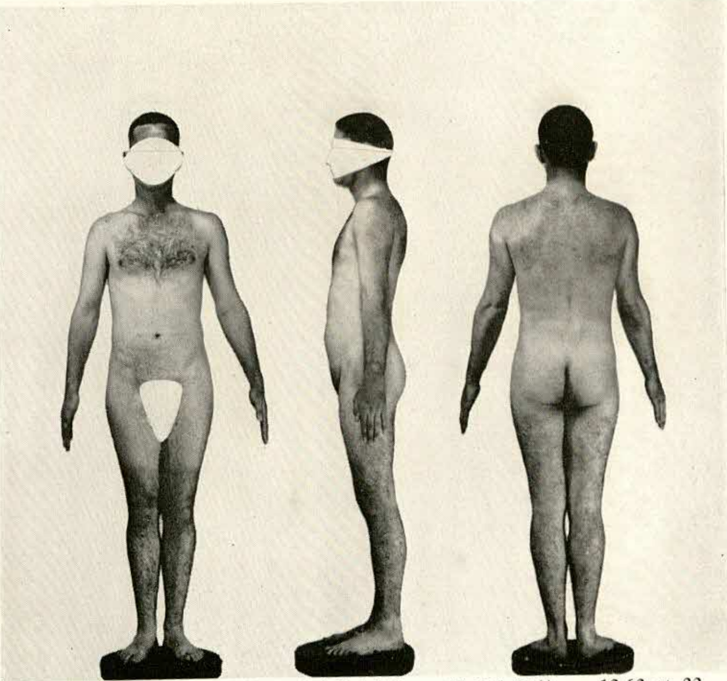


No. 887 *5 2 2* (*6*) 5 2 2–5 3 2 (5 2½ 2) 11.91 at 44
5½ 2½ 1½, 5 2½ 2, 4½ 2½ 2½, 5 2½ 2, 5 2½ 2½

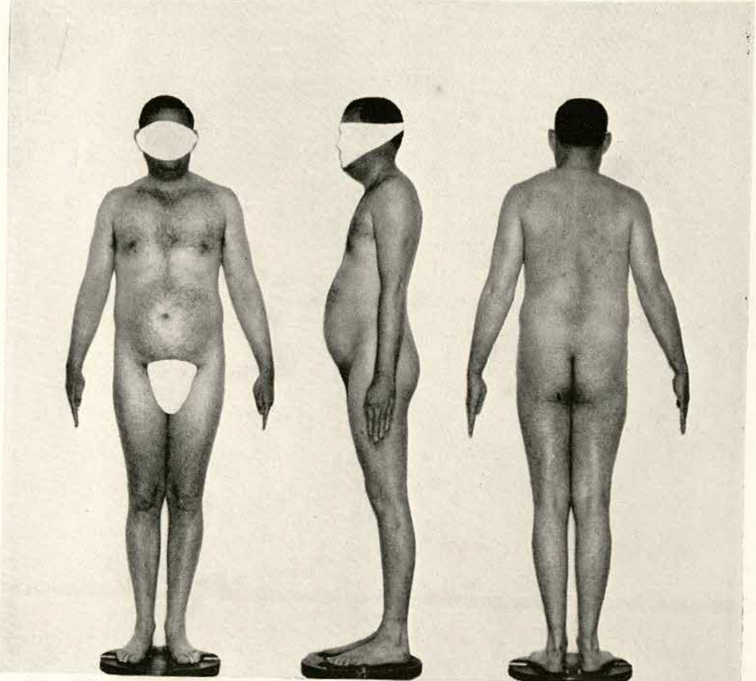


No. 888 *5 2 2* (*7*) 5 2 2–5 3 2 (5 2½ 2) 11.90 at 50
5 2 2, 5 2½ 2, 5 3½ 1½, 5 2 2, 5 2½ 2½

522

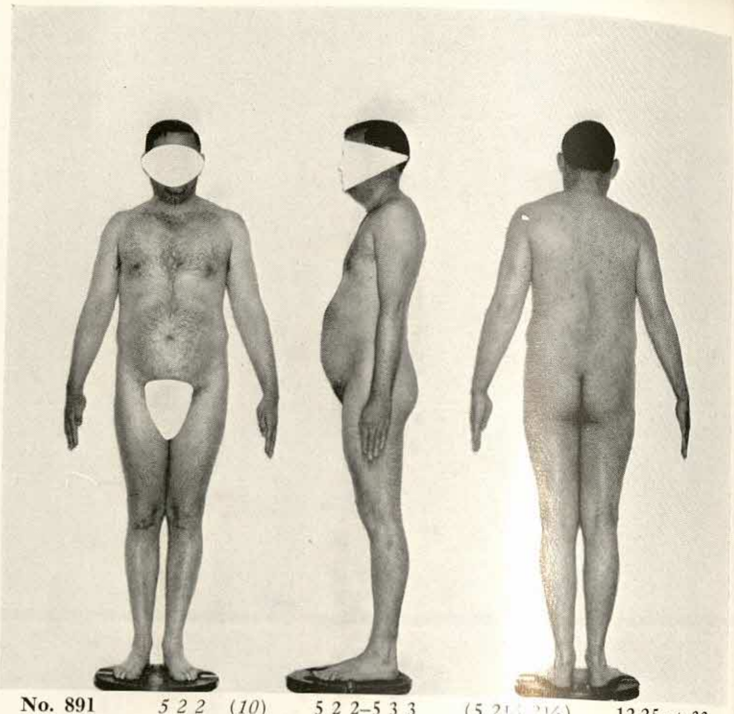


No. 889 *5 2 2* (*8*) 5 2 2–5 3 3 (5 2½ 2½) 12.62 at 22
5 2½ 2½, 5 2½ 2½, 5 3 2, 5 2½ 2½, 5 3 2

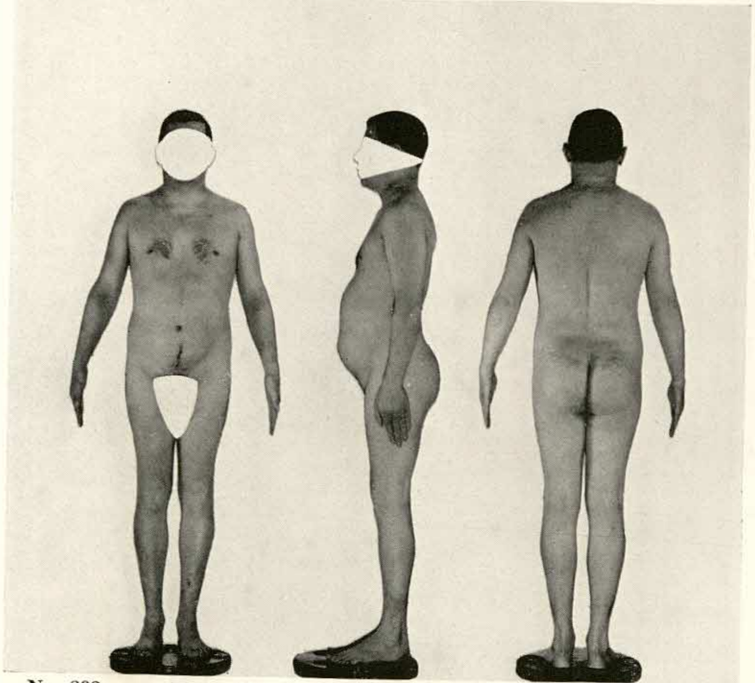


No. 890 *5 2 2* (*9*) 5 2 2–5 3 3 (5 2½ 2½) 12.38 at 30
5½ 2½ 2, 5½ 1½ 2½, 5 2½ 2½, 5 2½ 2½, 5 2½ 3

522

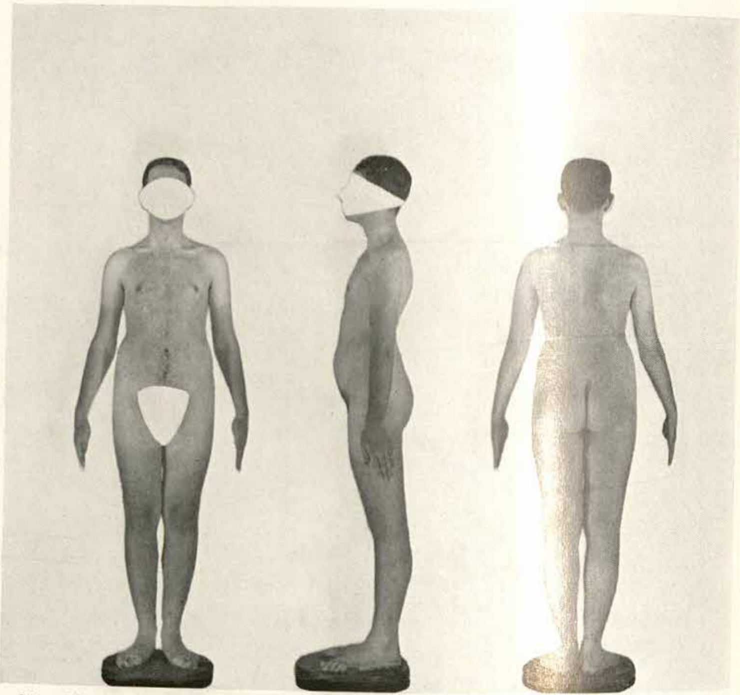


No. 891 *5 2 2* (*10*) 5 2 2–5 3 3 (5 2½ 2½) 12.25 at 33
5½ 3 2, 5 2½ 2½, 5 2½ 2½, 5 2½ 2½, 5 3 2

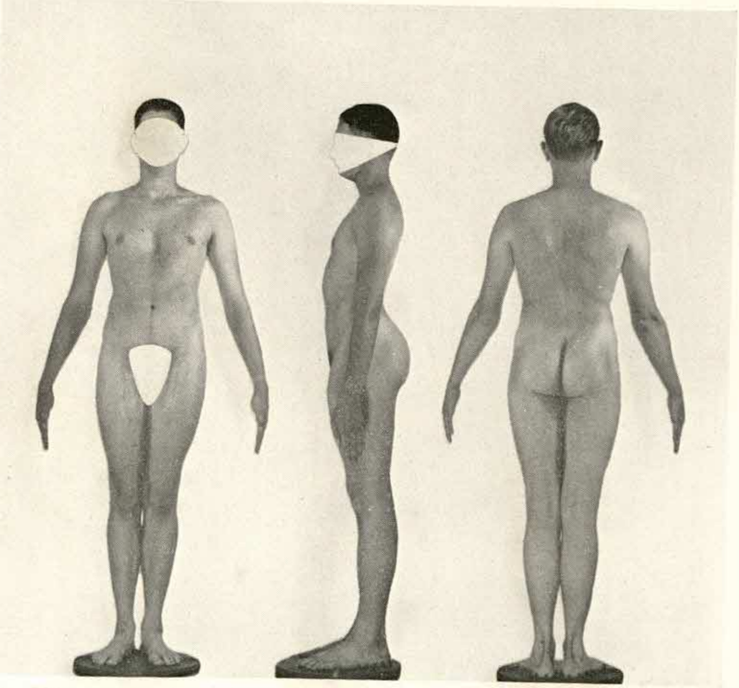


No. 892 *5 2 2* (*11*) 5 2 2–5 3 3 (5 2½ 2½) 12.13 at 36
5 3 2, 4½ 3½ 2, 5 2½ 2½, 5 2½ 2½, 4½ 2 3½

522

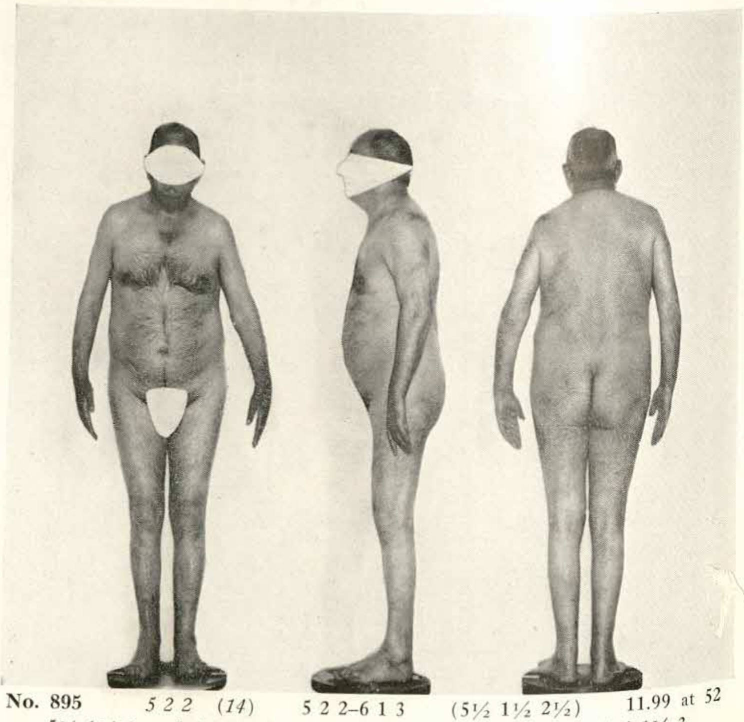


No. 893 *5 2 2* (*12*) 5 2 2–6 1 2 (5½ 1½ 2) 12.56 at 20
5 1½ 2½, 5½ 1 2½, 5½ 1½ 2, 5½ 1½ 2, 6 1½ 2

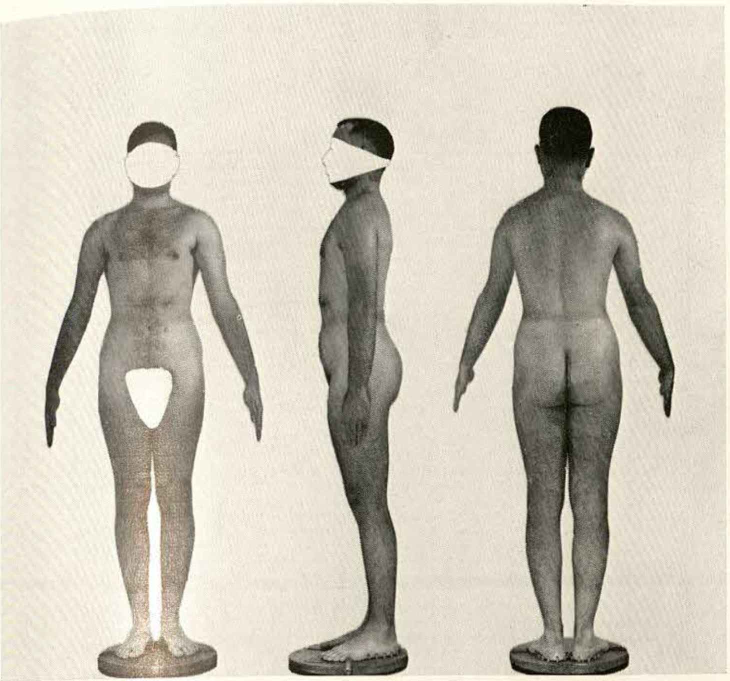


No. 894 *5 2 2* (*13*) 5 2 2–6 1 3 (5½ 1½ 2½) 12.74 at 18
5½ 1½ 2½, 5½ 1½ 3, 5½ 2 3, 5½ 1½ 2½, 6 2 2½

522

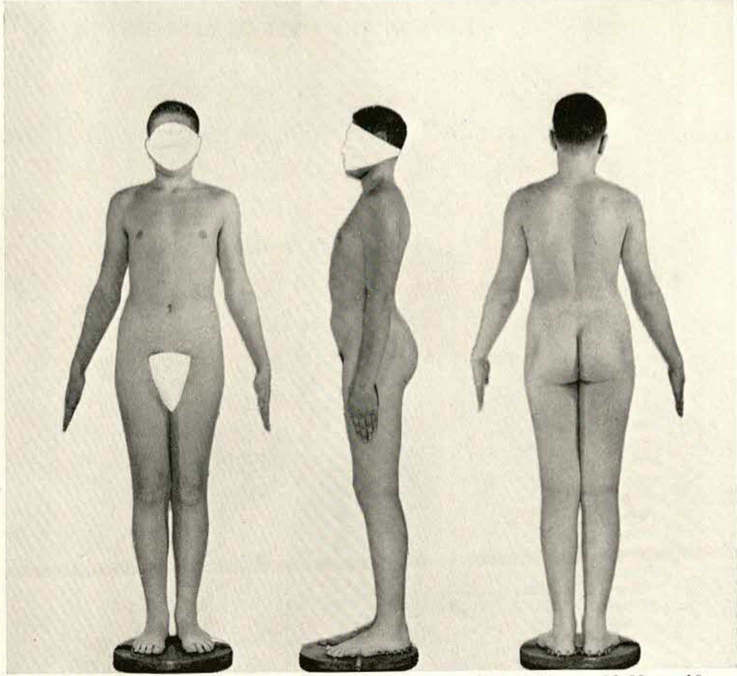


No. 895 *5 2 2* (*14*) 5 2 2–6 1 3 (5½ 1½ 2½) 11.99 at 52
5½ 1½ 2, 5½ 1½ 2½, 5½ 1½ 2½, 5½ 1½ 2, 5½ 1½ 3

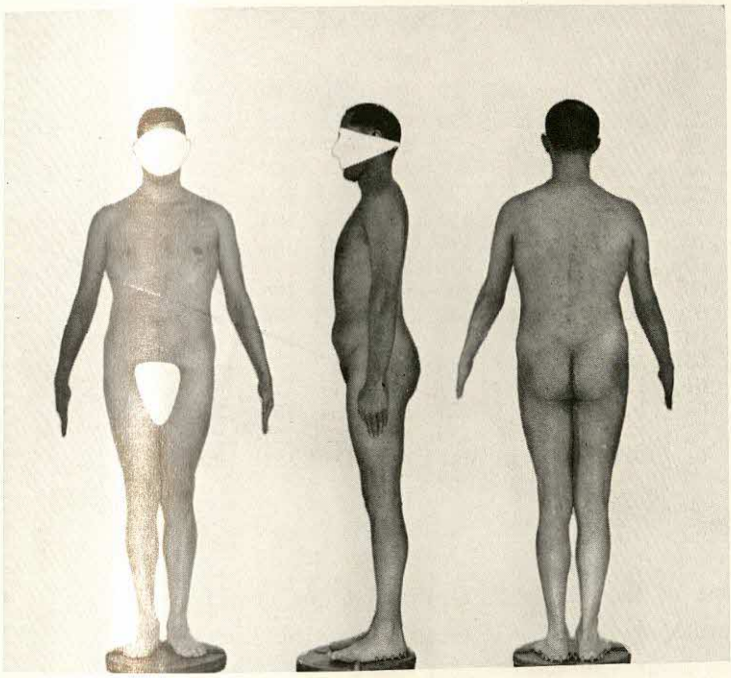


No. 896 *5 2 2* (*15*) 5 2 2–6 2 1 (5½ 2 1½) 12.53 at 18
5½ 2½ 1½, 5½ 2 1½, 5½ 2 2, 5½ 2 1½, 5½ 2 2

522

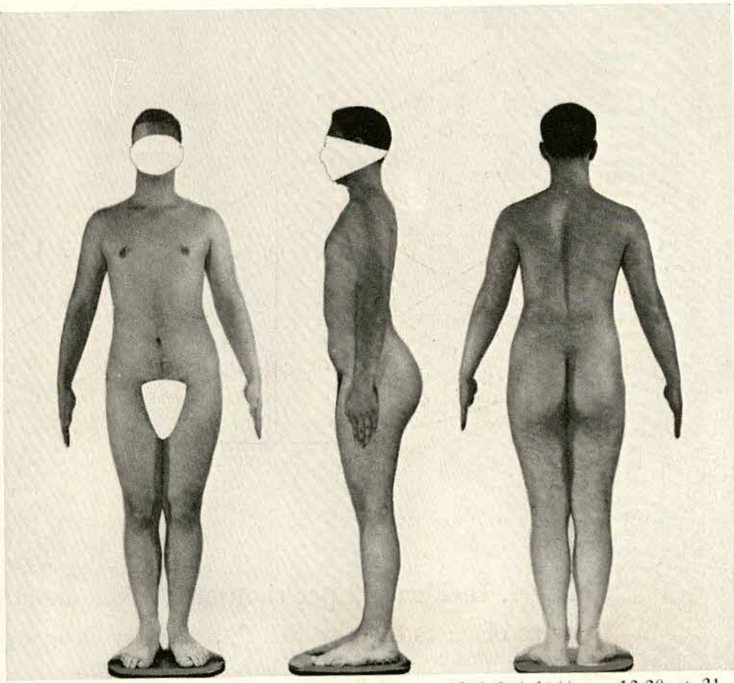


No. 897 *5 2 2* (*16*) 5 2 2–6 2 2 (5½ 2 2) 12.58 at 18
5½ 2 2, 5 2 2, 5½ 2 2½, 5½ 2 2, 5½ 2½ 2½

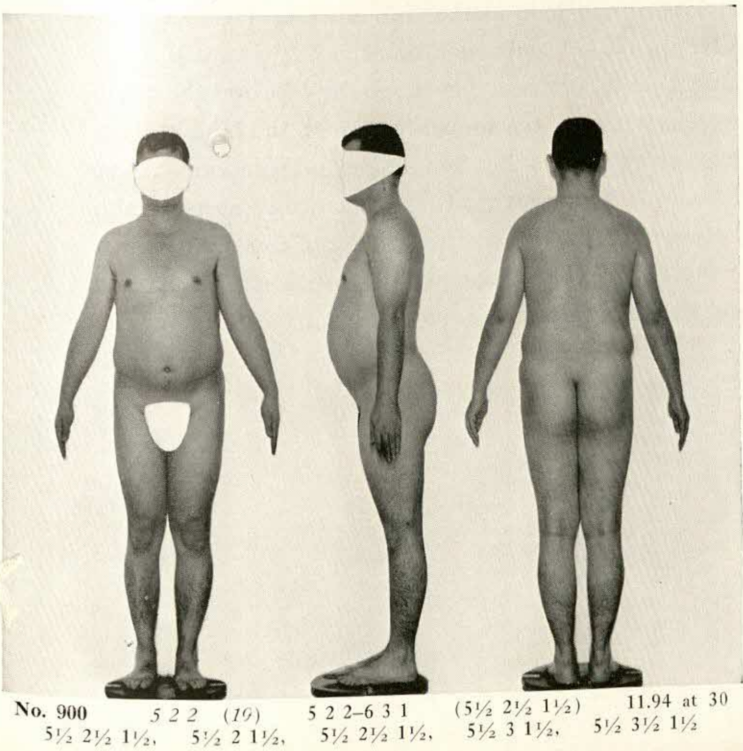


No. 898 *5 2 2* (*17*) 5 2 2–6 2 3 (5½ 2 2½) 12.56 at 20
5 2 2½, 5½ 2 3, 5½ 2 2½, 5½ 2 2½, 5 2½ 2½

522

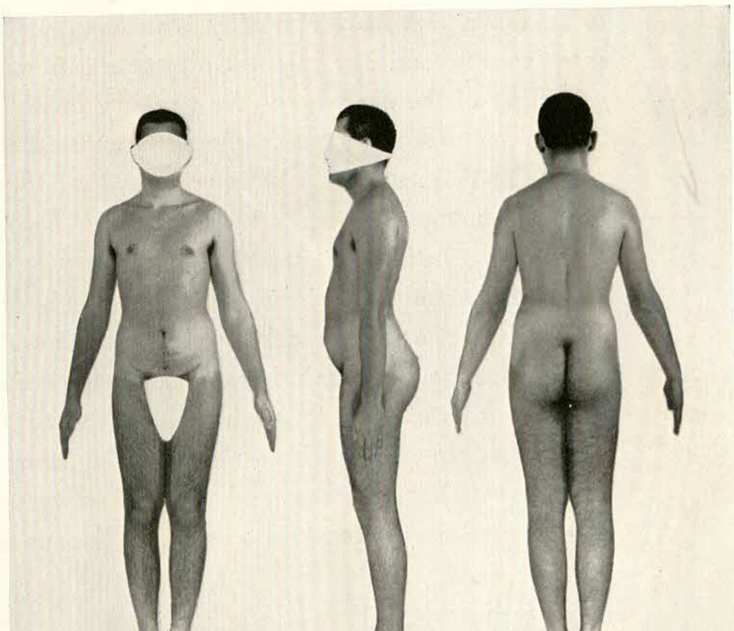


No. 899 *5 2 2* (*18*) 5 2 2–6 3 1 (5½ 2½ 1½) 12.20 at 21
5 2½ 2, 5½ 2½ 1½, 6 3 1½, 5½ 2½ 1½, 6 3 1½



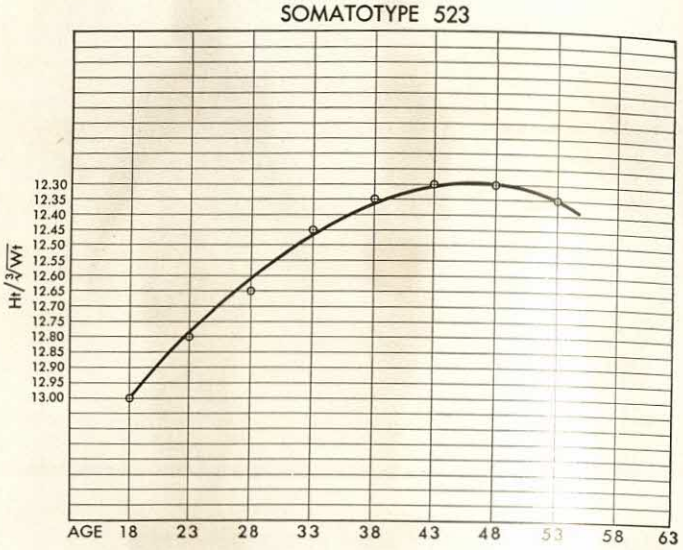
No. 900 *5 2 2* (*19*) 5 2 2–6 3 1 (5½ 2½ 1½) 11.94 at 30
5½ 2½ 1½, 5½ 2 1½, 5½ 2½ 1½, 5½ 3 1½, 5½ 3½ 1½

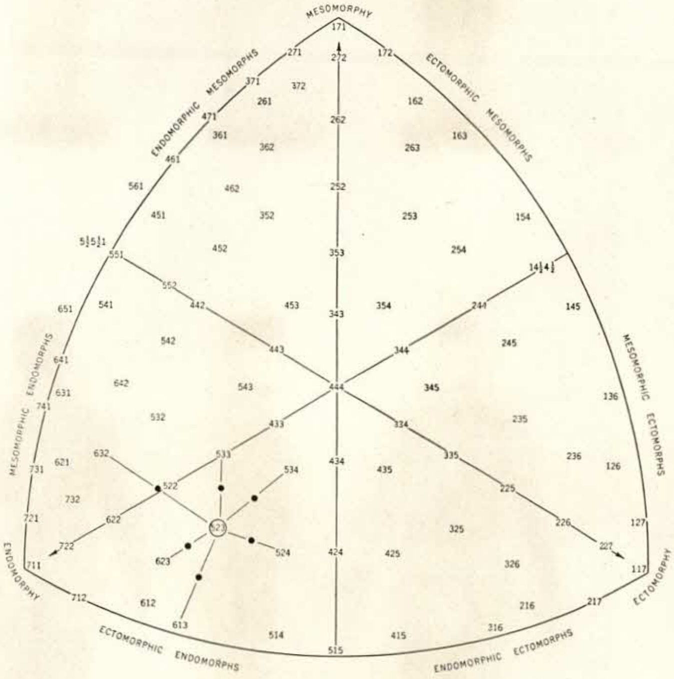
522



No. 901 *5 2 2* (*20*) 5 2 2–6 3 2 (5½ 2½ 2) 12.51 at 19
5½ 3 2, 5½ 2½ 2, 5½ 2½ 2½, 5½ 2½ 2, 5½ 2½ 2

Somatotype 5 2 3 *(Ectomorphic endomorphy, 10-level.) The California spotted under-the-barn kitty. About a tenth larger than the Florida variety, with longer legs and tail. Same affectionate disposition, same soft fat body. Without his musk he would be a delicate morsel for the predators. The little two-toed sloth, another 5 2 3, is also a gently viscerotonic fellow. Nos. 902–911.*



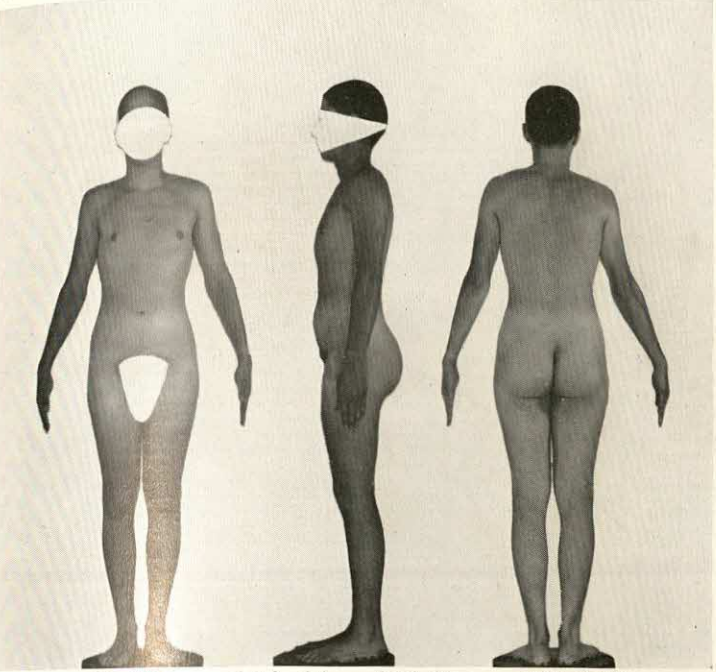


Weight for Age and Height

Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	192	201	209	220	223	225	225	222	..	..
74	185	193	201	210	215	217	217	215	..	..
73	178	185	193	202	205	208	208	206	..	..
72	170	178	186	194	197	200	200	198	..	..
71	163	170	177	185	189	191	191	189	..	..
70	156	163	170	178	181	183	183	181	..	..
69	150	157	163	170	174	176	176	174	..	..
68	144	150	156	163	166	168	168	166	..	..
67	137	143	149	156	159	161	161	159	..	..
66	131	137	142	149	152	154	154	152	..	..
65	125	131	136	142	145	147	147	145	..	..
64	119	125	130	135	138	140	140	138	..	..
63	114	119	124	129	132	134	134	132	..	..
62	108	113	118	123	125	127	127	126	..	..
61	103	108	113	117	119	121	121	120	..	..

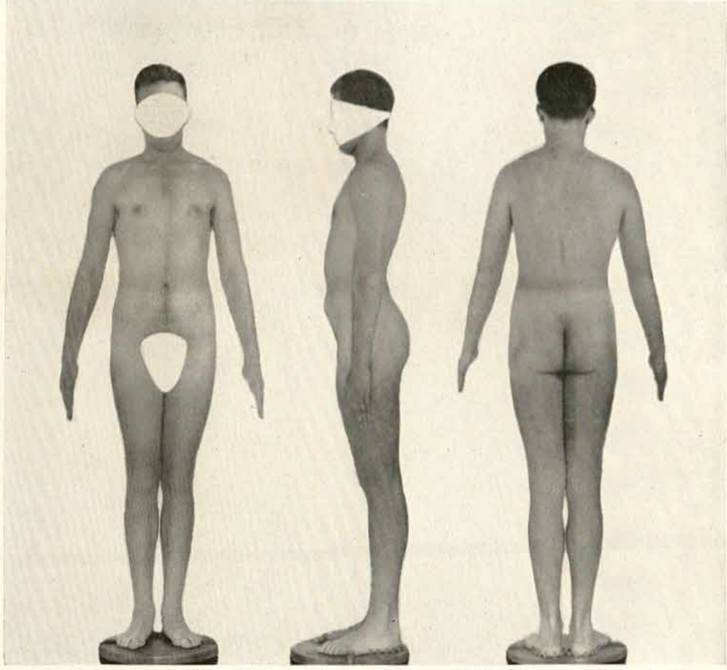
Rarity 4. Incidence 2 per thousand. Seen about four times as often as the rare 5 2 2, and more easily recognized. The 5 2 3 does not give any first impression of compactness or of mesomorphic competence. He tends to be taller, and his ectomorphy is more exposed, far more conspicuous. His physical atmosphere is consistently that of the mesopenes—the weakling family. The 5 2 2 sometimes at first seems more like a little bear, or panda. To make sure what he is, you may have to touch him, or photograph him, or see him walk. The 5 2 3, whether in a bathing suit or a military uniform, seems at first glance exactly what he is. Either his arms hang like useless flippers or he is knock-kneed with the lower legs too long for the thighs, or he has a weak face suspended on a long neck, or his waist is "much too high" and his "belly too plump." In any case his posture will be mesopenic, whether standing or sitting, and the total impression is that of a somewhat pneumatic muscular incompetence.

One of the things that attracted our attention in the earliest days of our interest in constitutional study was the frequency with which mesopenes and weak ectomorphs got high marks in school and college. In a study of 1700 young men at the University of Wisconsin (see VHP, p. 178), I had found that the 5 2 3's stood second among all the somatotypes in scholarship, and the 2 2 5's were first. Of the ten somatotypes with the highest standings, seven were at 2 or 3 in the second component. However, in later studies we found practically no correlation between mental test scores and any of the three primary components. Why, then, did the weakling somatotypes get the better grades? A motivational problem?

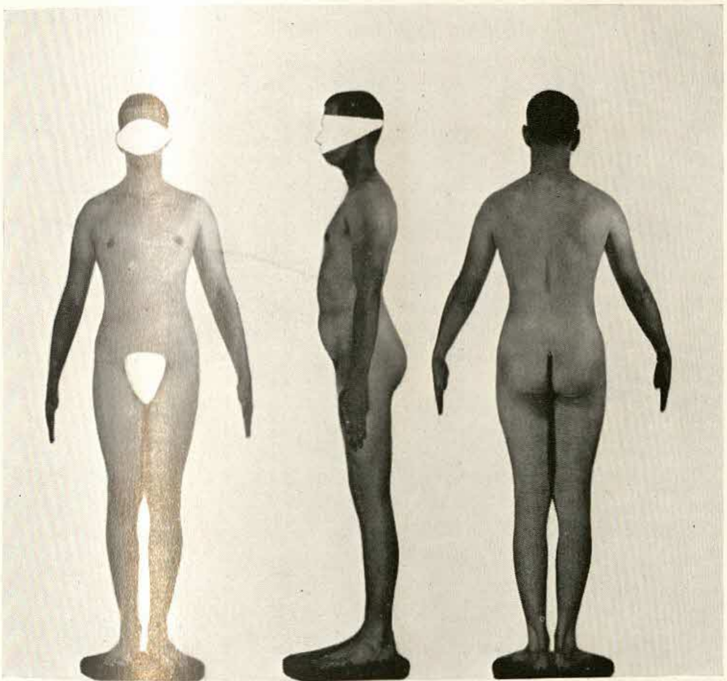


No. 902 *5 2 3* (*1*) 5 2 3–5 2 3 13.01 at 18
5 2 3, 5 2 3, 5 2 3½, 5 2½ 3½, 5 2½ 3

523

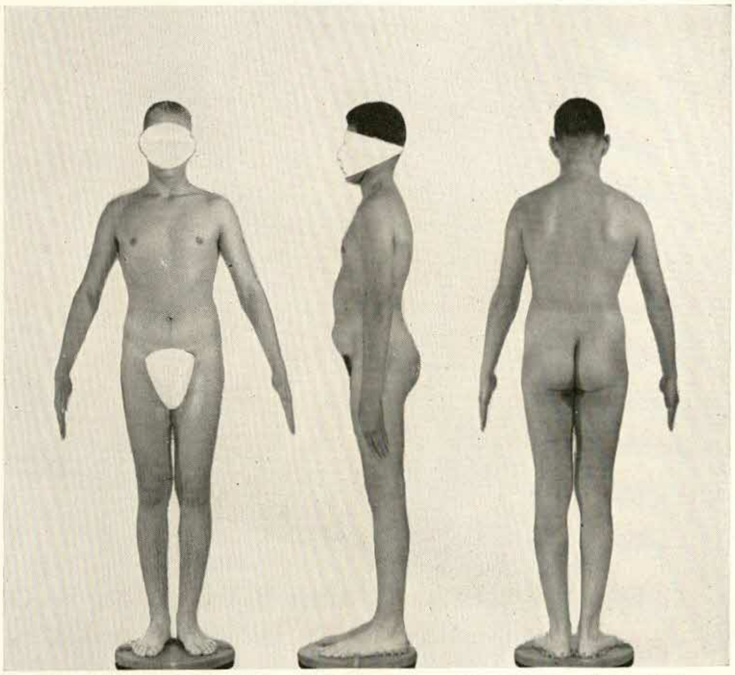


No. 903 *5 2 3* (*2*) 5 2 3–5 2 4 (5 2 3½) 13.06 at 19
5 2½ 3½, 5 2 3½, 5 2½ 3½, 5 2 3½, 5 2 3½

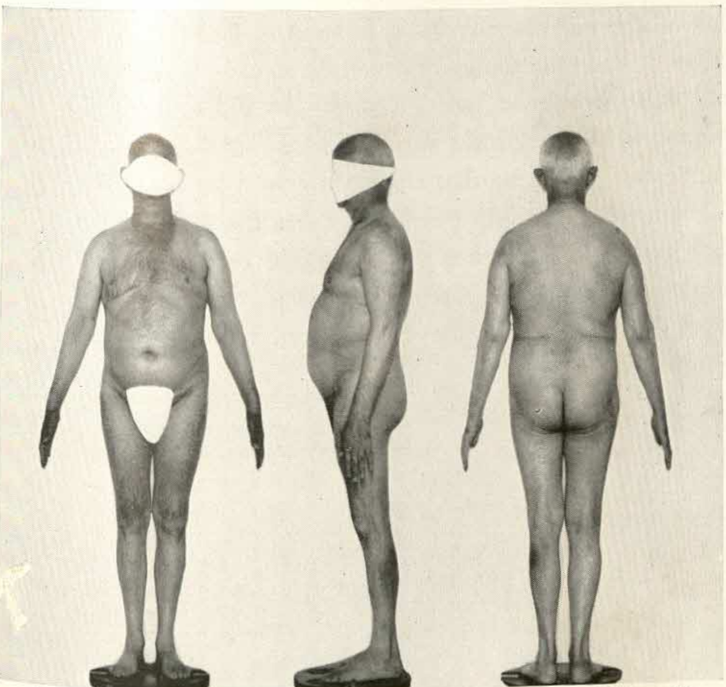


No. 904 *5 2 3* (*3*) 5 2 3–5 3 3 (5 2½ 3) 12.93 at 18
5 2 3, 5 2½ 3, 5 2½ 3½, 5 2½ 3, 5 2 3½

523

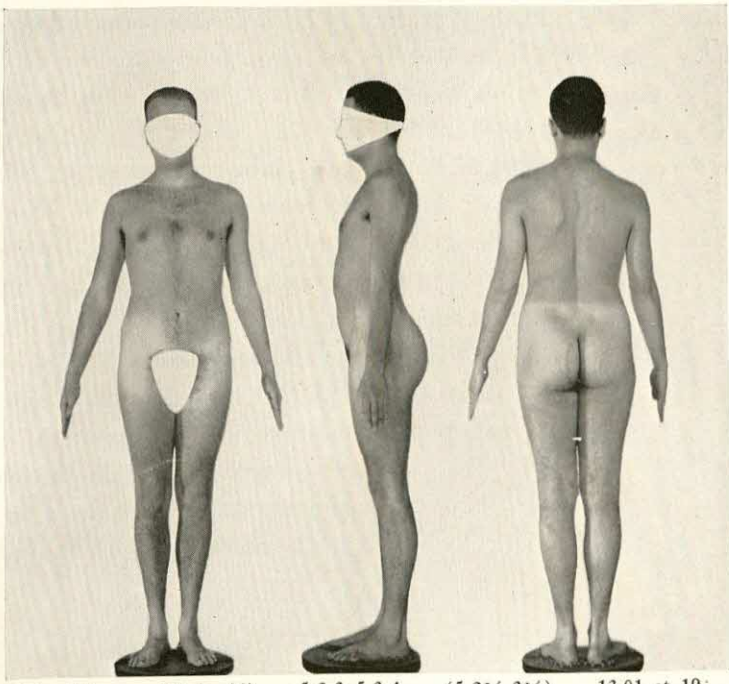


No. 905 *5 2 3* (*4*) 5 2 3–5 3 3 (5 2½ 3) 12.88 at 20
4½ 3 3, 5 2½ 3. 5 2½ 3. 5 2½ 3, 4½ 2½ 3½



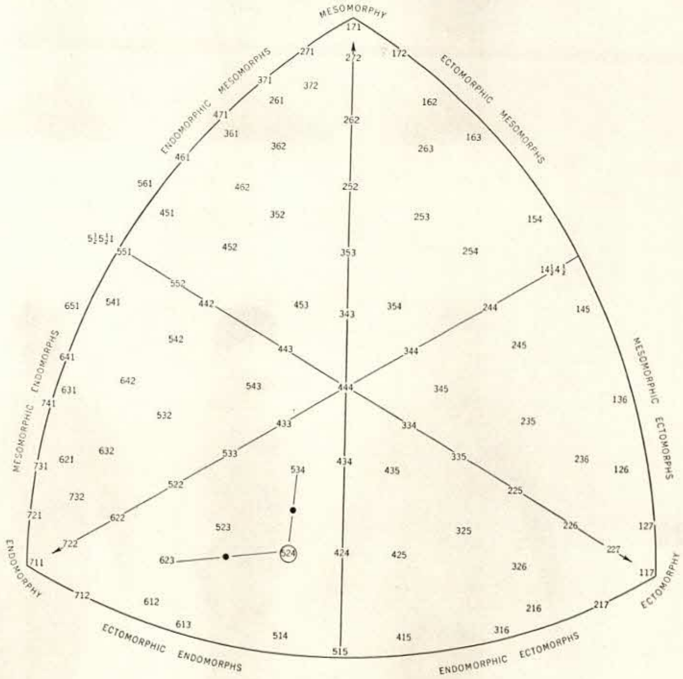
No. 906 *5 2 3* (*5*) 5 2 3–5 3 3 (5 2½ 3) 12.11 at 53
5 2½ 2½, 5 2½ 2½, 5 2½ 3½, 5 2½ 2½, 4½ 1½ 4½

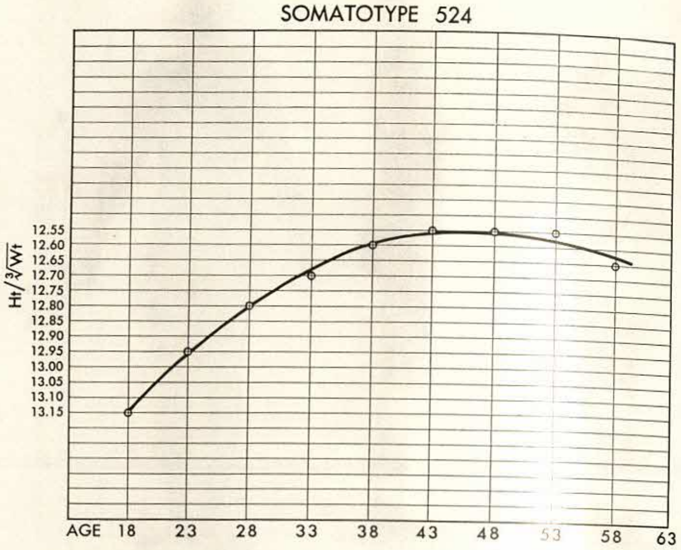
523



No. 907 *5 2 3* (*6*) 5 2 3–5 3 4 (5 2½ 3½) 13.01 at 19
5 2½ 3, 5 2½ 3½, 5 2 4, 5 2½ 3½, 5 3 3½

Somatotype 5 2 4 *(Ectomorphic endomorphy, 11-level.) The Texas striped under-the-barn kitty. Finest and bushiest tailed of his family. An ambling, viscerotonic fellow, he grubs for roots and beetles, loves to get fat in the fall and to sleep through the severe weather. Nos. 912–917.*



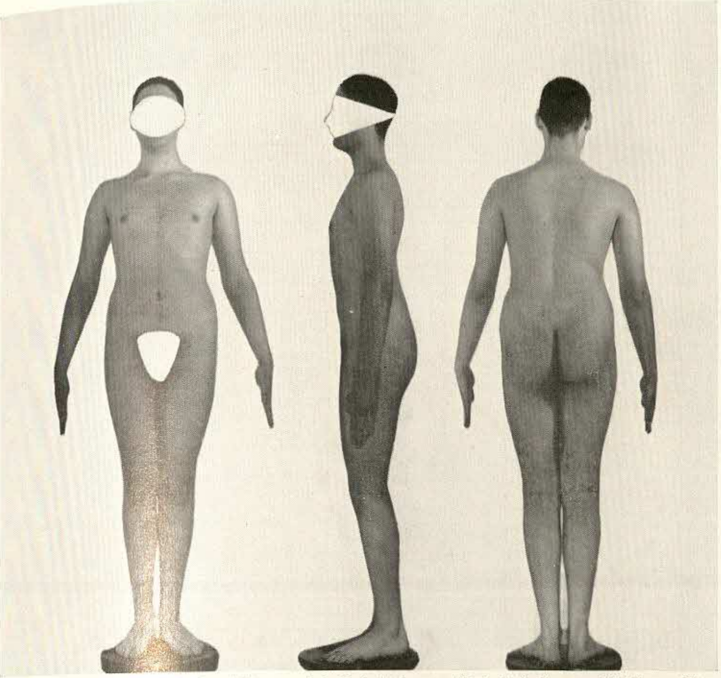


Weight for Age and Height

Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	186	193	200	206	209	212	214	214	208	..
74	178	186	192	198	201	204	205	205	199	..
73	171	179	184	190	193	196	197	197	191	..
72	164	170	176	182	185	188	189	189	183	..
71	157	164	169	175	178	180	181	181	176	..
70	151	157	163	168	170	173	174	174	169	..
69	145	151	156	161	164	166	167	167	162	..
68	139	144	149	154	157	159	160	160	155	..
67	132	137	143	147	149	152	153	153	148	..
66	126	131	136	140	143	145	146	146	141	..
65	121	126	130	134	136	138	139	139	135	..
64	115	120	124	128	130	132	133	133	129	..
63	110	114	118	122	124	126	127	127	123	..
62	105	109	113	117	119	120	121	121	118	..
61	100	104	108	111	113	114	115	115	112	..

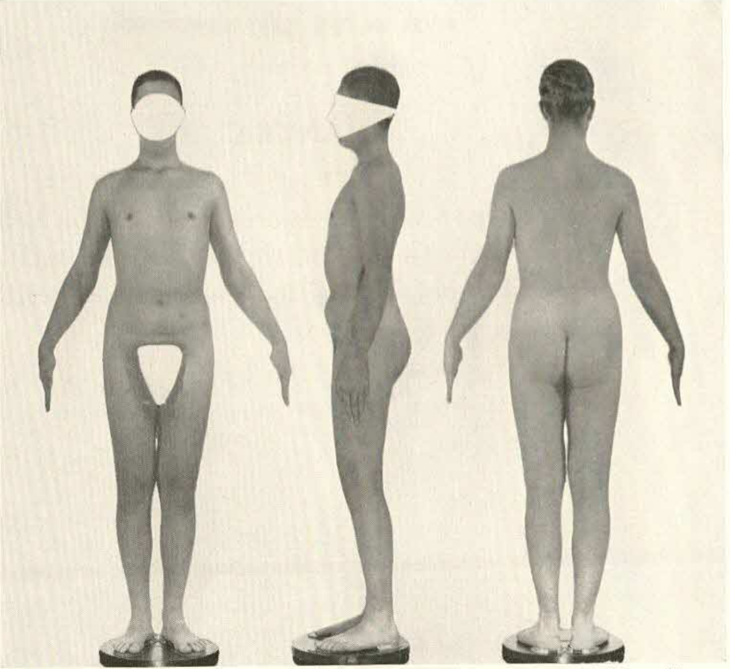
Rarity 3. Incidence 4 per thousand. The scarcity of this family of somatotypes, even at the level of the 11-total, may serve as a measure of nature's reluctance toward mesopenia in the human male. If we review the six somatotypes derived from the six permutations of 5, 2 and 4, we find that we have the two endopenes 2 4 5 (24 per thousand) and 2 5 4 (28); the two ectopenes 4 5 2 (48) and 5 4 2 (31); and the two mesopenes 4 2 5 (5) and 5 2 4 (4). These two endopenes make up about 5 per cent of the male population, the ectopenes about 8 per cent, and the mesopenes about 1 per cent. Note too that of the two endopenes it is the mesomorph that is the commoner; also of the two ectopenes it is the mesomorph that is the commoner; while of the two mesopenes it is the ectomorph that is slightly the commoner. In our male population, mesomorphy appears to be numerically the preferred component, but in the choice between endomorphy and ectomorphy, it is the latter that is numerically a little in the ascendancy. These relationships will be found to hold, in the main, throughout all the families of somatotypes in the series.

The nutrition curves for the "barn kitty" family indicate that all three of the somatotypes seem to find the going heavy by the time the end of the fifth decade is reached, and these mesopenes are jettisoning weight and disappearing in their sixth decade. So far as our data go, the implication would be that comparatively short life is the rule among this constitutional family in the male. But if that indication is correct, why should it be so? Women are longer lived than men, and the mesopenic somatotypes are the ones which, among men, most closely resemble women.

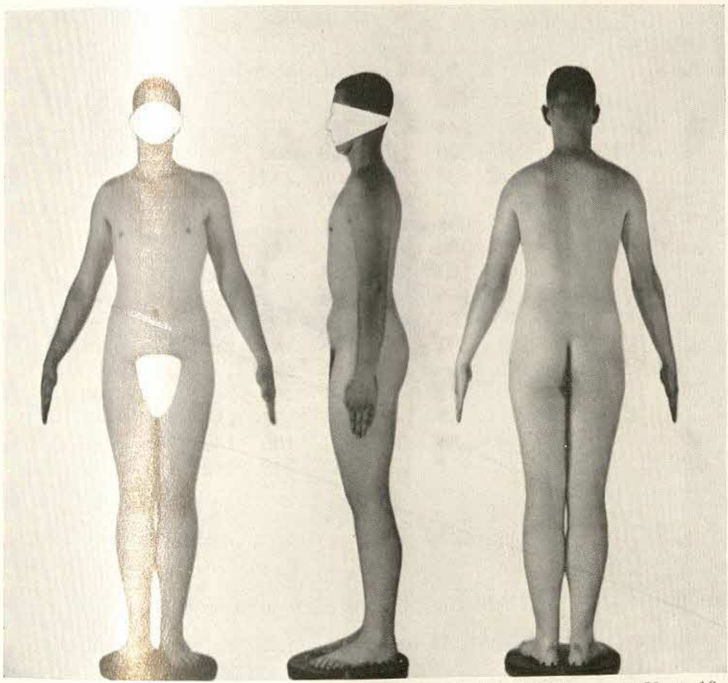


No. 908 *5 2 3* (*7*) 5 2 3–6 1 3 (5½ 1½ 3) 12.71 at 20
5½ 1½ 3, 5½ 2 3, 5½ 1½ 3, 5½ 1 3, 5½ 1½ 3

523

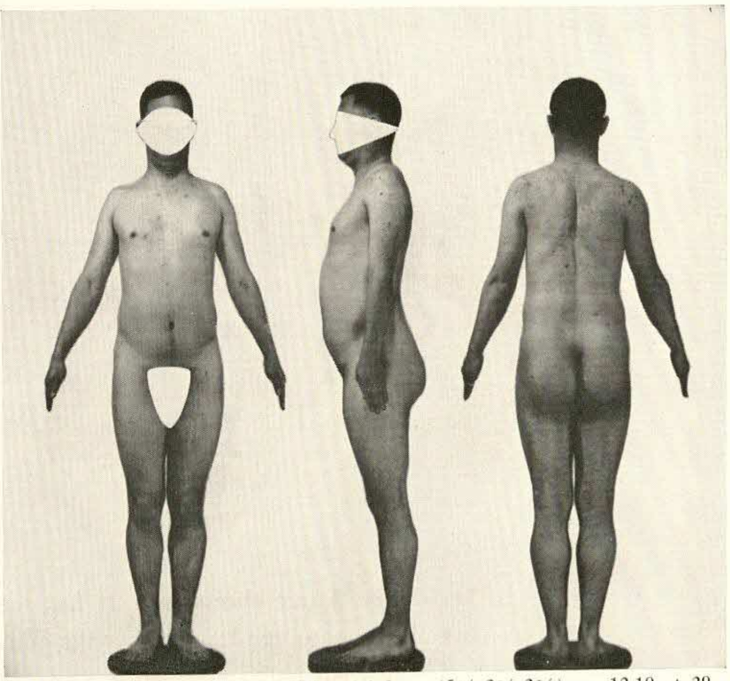


No. 909 *5 2 3* (*8*) 5 2 3–6 2 3 (5½ 2 3) 12.77 at 18
5 2½ 3, 5½ 2 3, 5½ 2½ 2½, 5½ 1½ 3, 5½ 2 2½

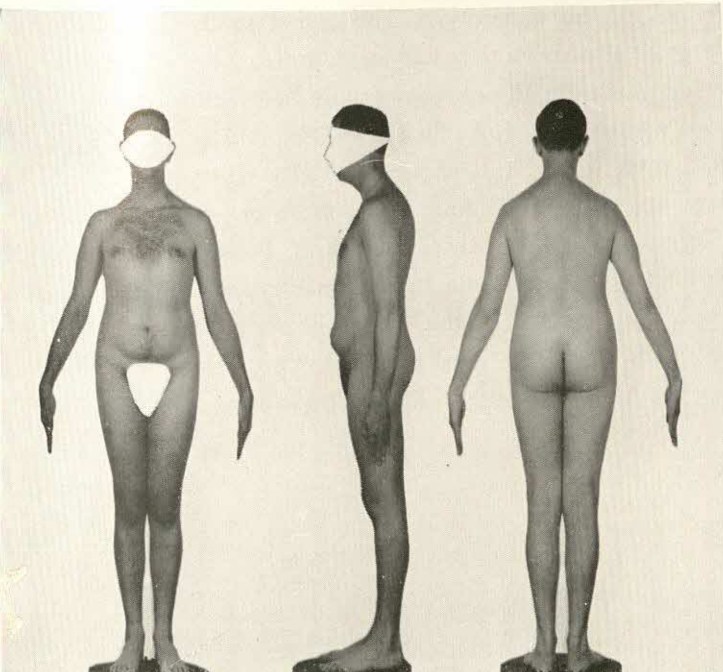


No. 910 *5 2 3* (*9*) 5 2 3–6 3 2 (5½ 2½ 2½) 12.59 at 19
4½ 2 4, 5½ 2½ 2½, 5½ 3 2, 5½ 2½ 2½, 6 3 1½

523

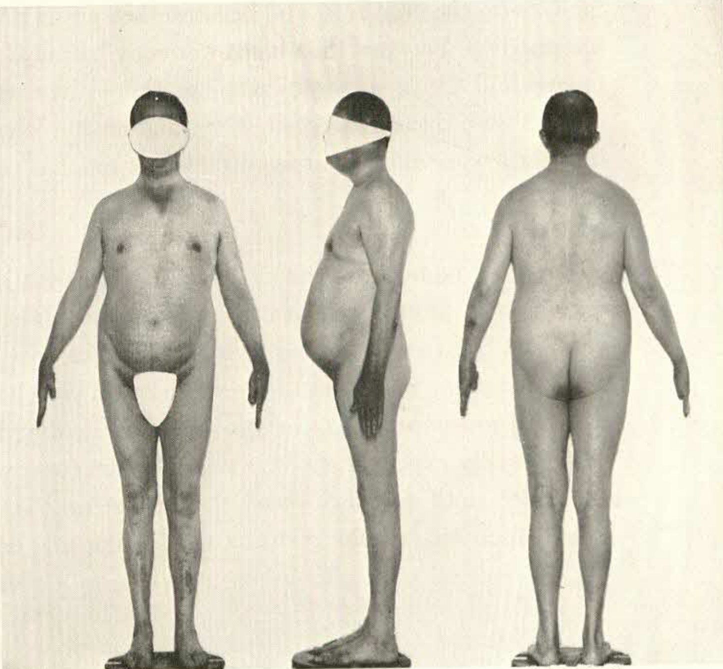


No. 911 *5 2 3* (*10*) 5 2 3–6 3 2 (5½ 2½ 2½) 12.19 at 29
5½ 3 2½, 5½ 2 2½, 5 2½ 2½, 5½ 2½ 2½, 5 3½ 2



No. 912 *5 2 4* (*1*) 5 2 4–5 2 4 12.99 at 24
4 2 5, 5 2½ 3, 5 2 4½, 5 2½ 3½, 5 2 4

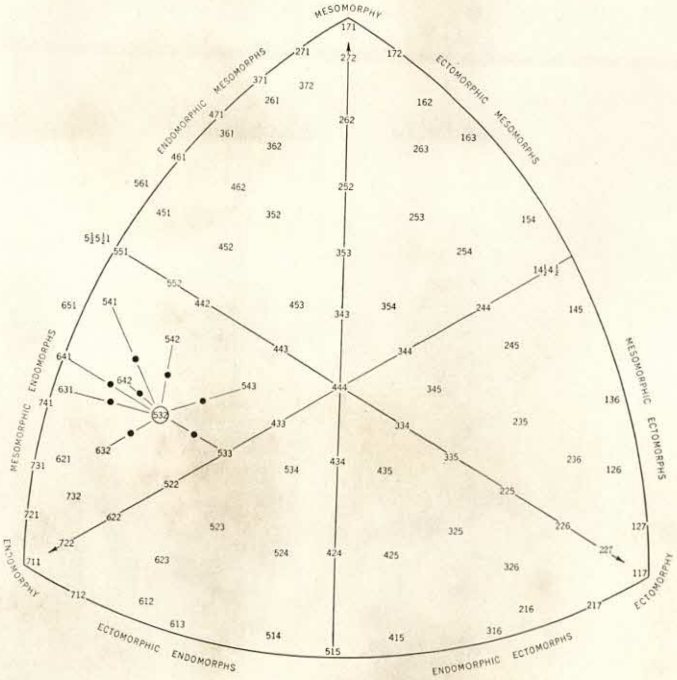
524



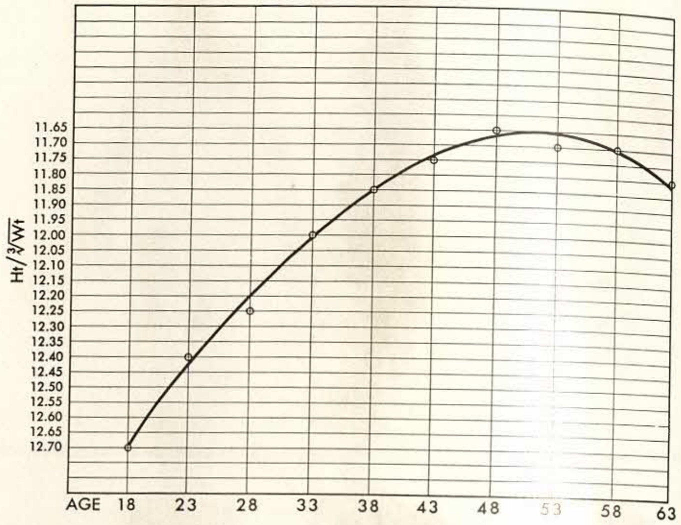
No. 913 *5 2 4* (*2*) 5 2 4–5 2 4 12.53 at 50
5 3 3½, 5 2 4, 5 2 3½, 5 2 3½, 4½ 2 4½

31. ANTEATERS

Somatotype 5 3 2 *(Mesomorphic endomorphy, 10-level.) The aardvark, a fat little African anteater with a remarkably heavy tail. He has a small mouth, no teeth, and a most active tongue. Nos. 918–941.*



SOMATOTYPE 532



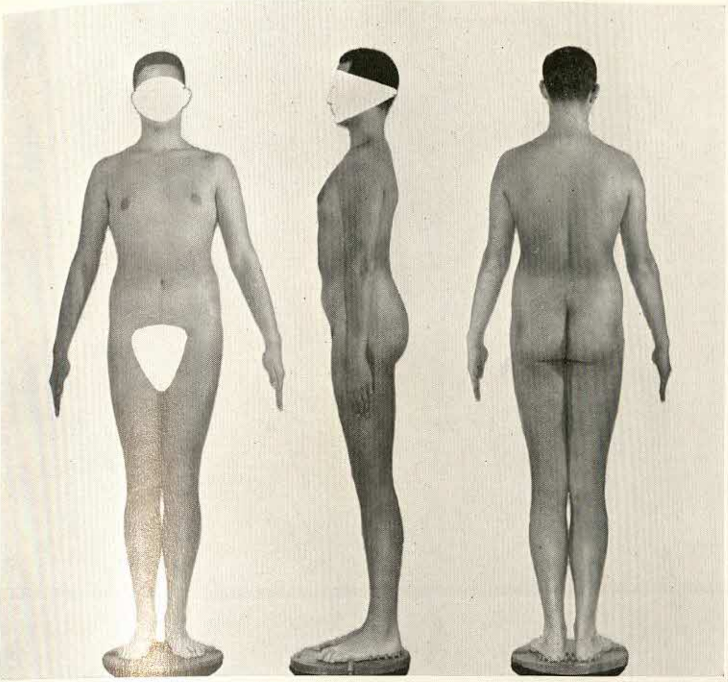
Weight for Age and Height

Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	206	220	231	247	253	260	267	264	262	258
74	198	212	222	236	243	250	256	253	252	248
73	189	202	212	226	232	239	244	242	241	237
72	182	194	204	217	223	230	234	233	232	227
71	174	187	196	208	214	221	226	224	223	219
70	167	179	188	200	206	212	217	215	214	210
69	161	172	180	192	197	203	208	206	205	202
68	154	165	172	183	189	194	199	197	196	193
67	147	157	165	175	180	186	190	188	187	184
66	140	150	157	167	172	177	181	180	179	176
65	134	143	150	159	164	169	173	172	171	168
64	128	137	143	152	157	162	165	164	163	160
63	122	131	137	145	149	154	157	157	156	153
62	116	125	130	138	142	147	150	149	148	146
61	111	119	124	131	135	140	143	142	141	139

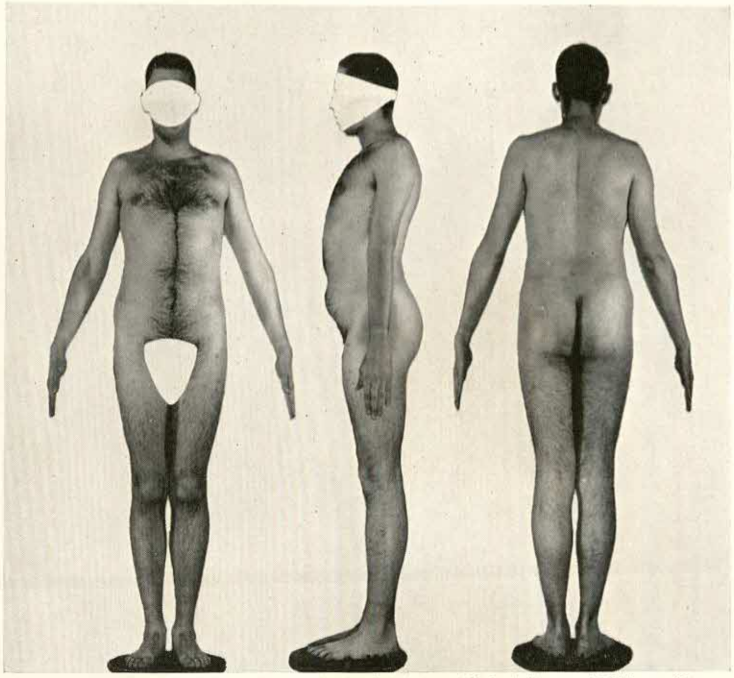
Rarity 3. Incidence 8 per thousand. It has seemed fitting to name this somatotype family after the anteaters not because the men eat ants but because they tend to grow fat and cumbersome, especially in the fourth region, as do the anteaters; and because they are in a sense intermediate between the almost perfectly harmless mesopenes and the mesomorphs who can throw their weight around with disastrous effect. Even an anteater suggests disaster if you will look at an anthill after one has paid it a visit.

If the 4 4 2 be taken as the classic PPJ (see p. 212), the 5 3 2 is the country cousin who often imitates him, and when a 5 3 2 enacts the role of pyknic practical joke, you have something really out of the ordinary on your hands. The PPJ phenomenon consists in somehow holding back the normally expected endomorphic blossom for a while —usually until marriage—and then more or less suddenly discontinuing the restraint with ballooning consequences. The 5 3 2 *can* maintain a slim appearance if he or she badly enough wants to do so, and can for a long time without distress travel along at a metabolic level which keeps the weight at least 10 per cent below the average for the somatotype. This is not really difficult. We have already noted that most professional athletes keep their weight 10 per cent or more below this average while operating at full efficiency. Diet will do it. Vigorous exercise and full physical activity will do it. Excessive mental activity and the pressure of events, as in college and graduate school, will do it. Probably *t* component tends to do it in most somatotypes, and some people certainly stay at the "minus 10 per cent" level all their lives (these are hard to somatotype). But the PPJ may balloon suddenly to the plus 20 per cent level.

524

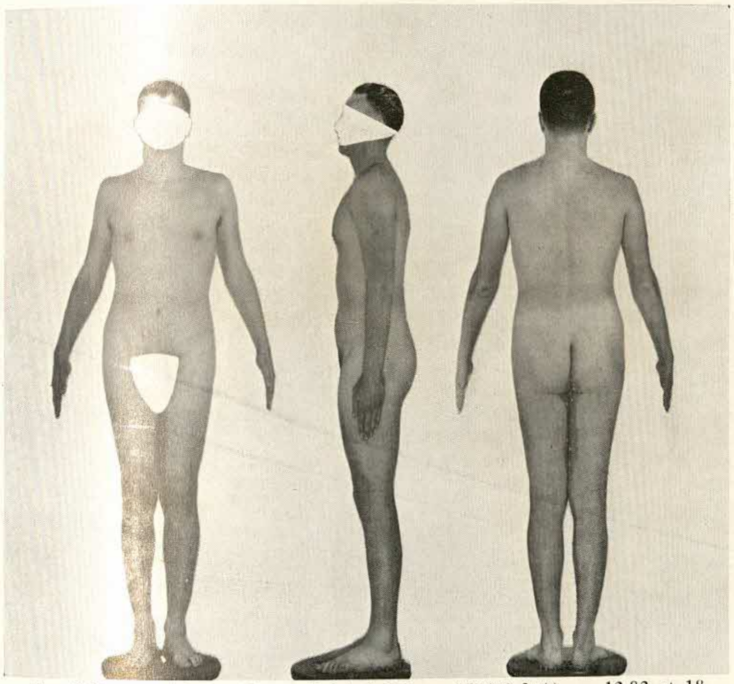


No. 914 *5 2 4* (*3*) 5 2 4–5 3 4 (5 2½ 4) 12.97 at 20
4½ 2½ 4½, 5 2½ 4, 5 2½ 3½, 5 2½ 4, 5 3 3½

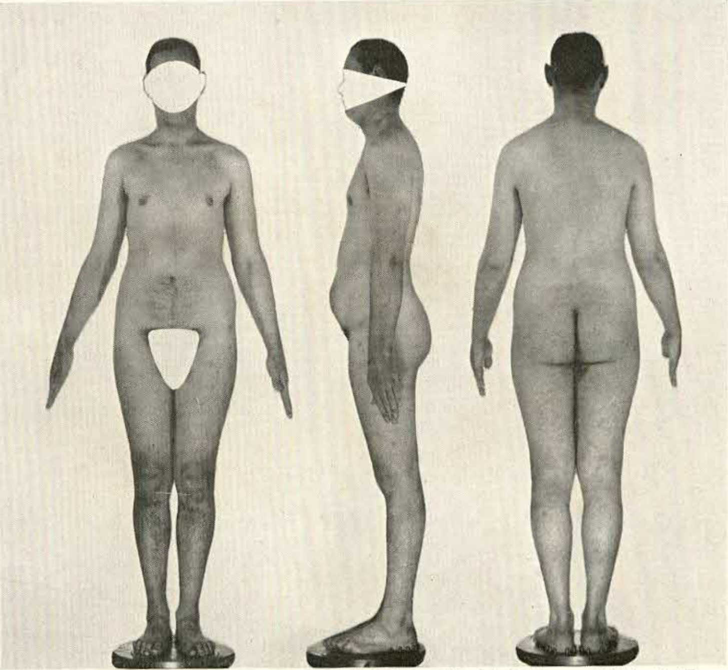


No. 915 *5 2 4* (*4*) 5 2 4–5 3 4 (5 2½ 4) 12.95 at 20
4½ 2 4½, 5 3 3½, 4½ 2 5, 5 2½ 4, 5 3 4

524

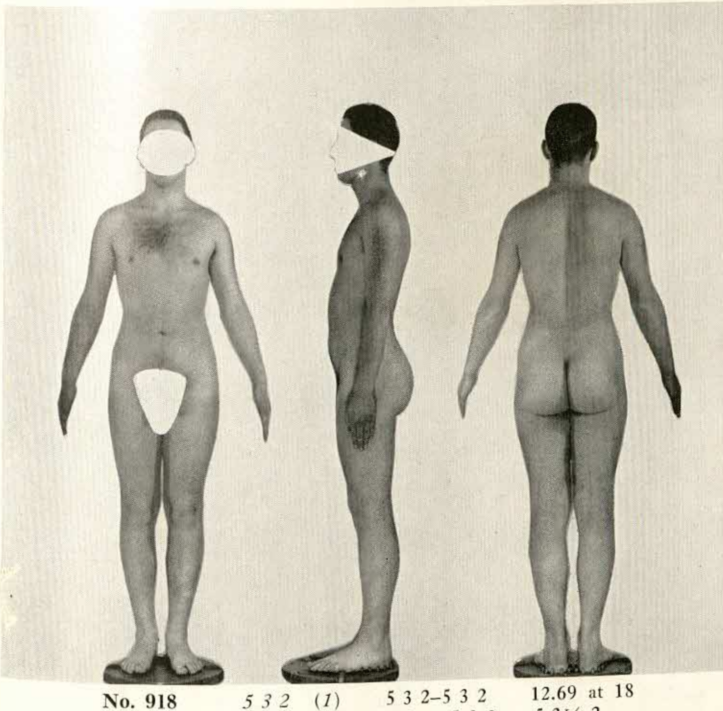


No. 916 *5 2 4* (*5*) 5 2 4–6 2 3 (5½ 2 3½) 12.82 at 18
5 2½ 3, 5½ 2 3, 5½ 2 3½, 5½ 2 3½, 5 2½ 3½

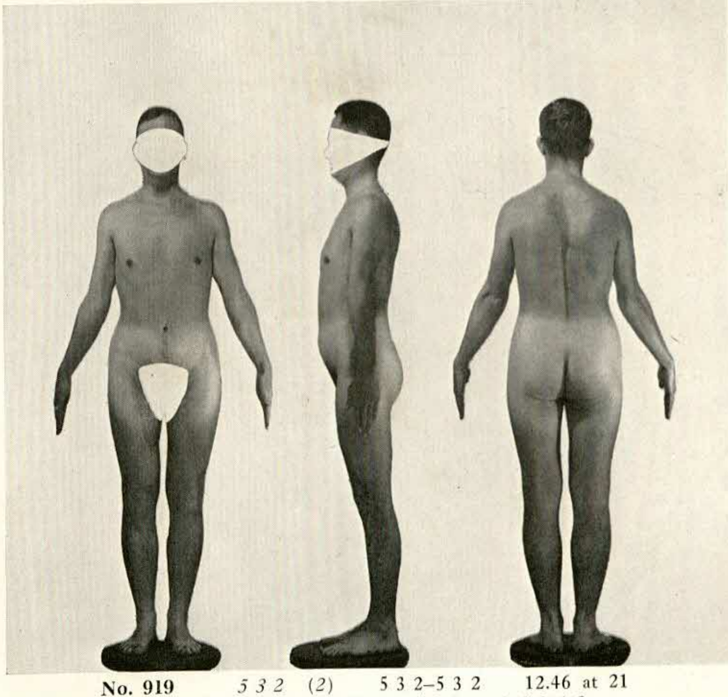


No. 917 *5 2 4* (*6*) 5 2 4–6 2 3 (5½ 2 3½) 12.48 at 27
5½ 2 3½, 5½ 1½ 4, 5½ 3 2½, 5½ 2 3½, 5½ 2½ 3

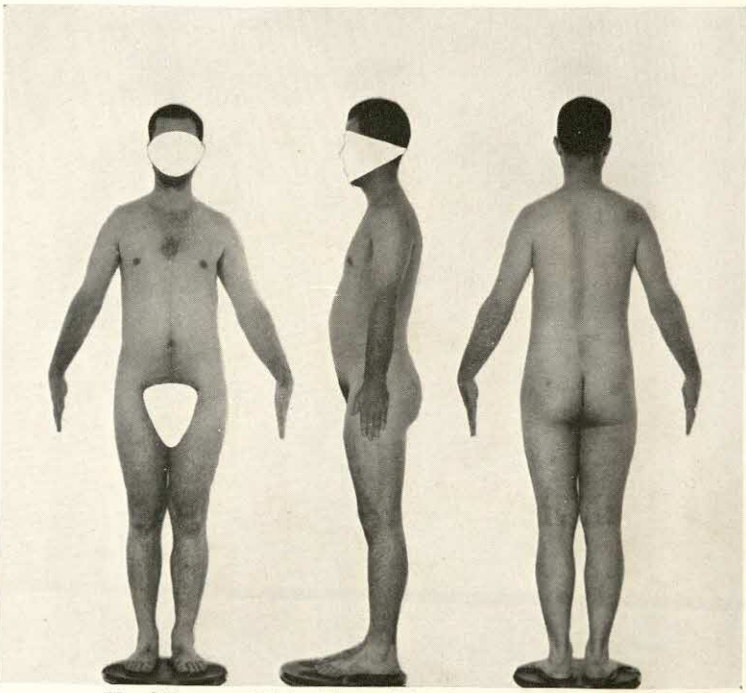
532



No. 918 *5 3 2* (*1*) 5 3 2–5 3 2 12.69 at 18
5 3 2½, 5 3 2, 5 2½ 2½, 5 3 2, 5 3½ 2

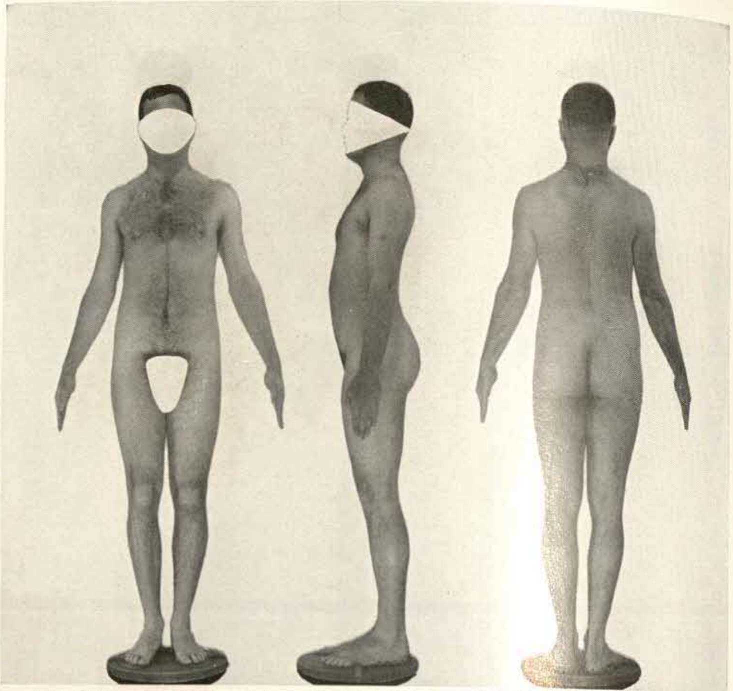


No. 919 *5 3 2* (*2*) 5 3 2–5 3 2 12.46 at 21
4½ 3 3, 5 3 2, 5 2 2, 5 3 2, 4½ 3½ 2

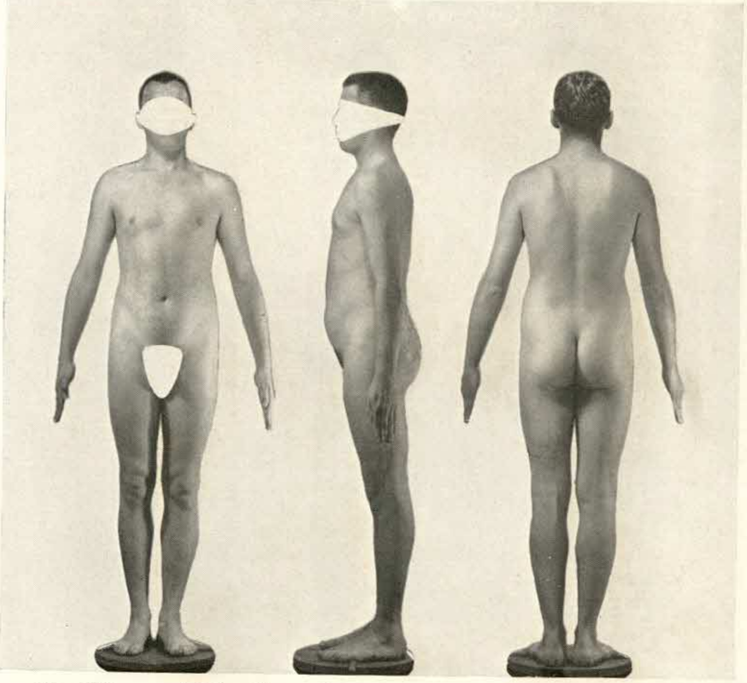


No. 920 *5 3 2* (*3*) 5 3 2–5 3 2 12.18 at 30
5 2½ 2½, 5 2 2, 5 3½ 1½, 5 3 2, 5 3½ 1½

532

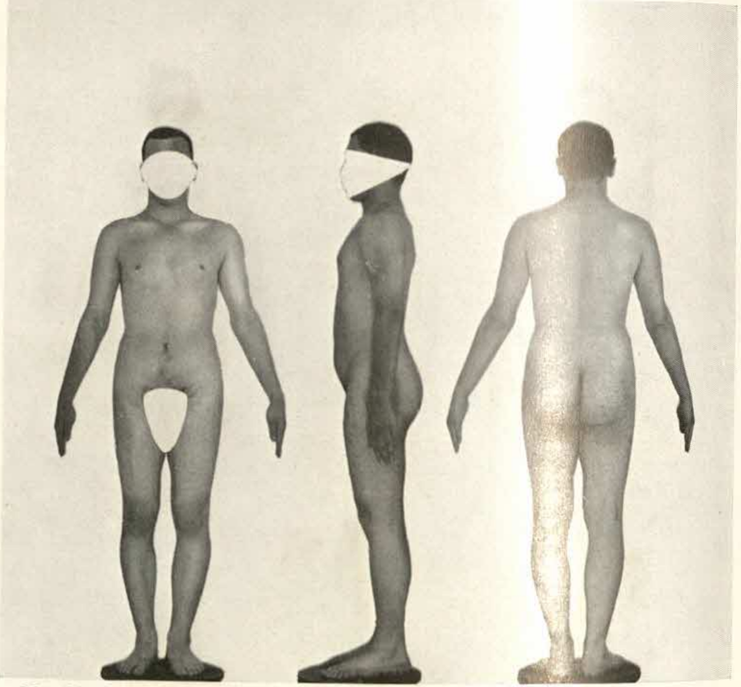


No. 921 *5 3 2* (*4*) 5 3 2–5 3 3 (5 3 2½) 12.63 at 20
5 3 2½, 5 2½ 2½, 5 3 2½, 5 3 2½, 4½ 3½ 3½

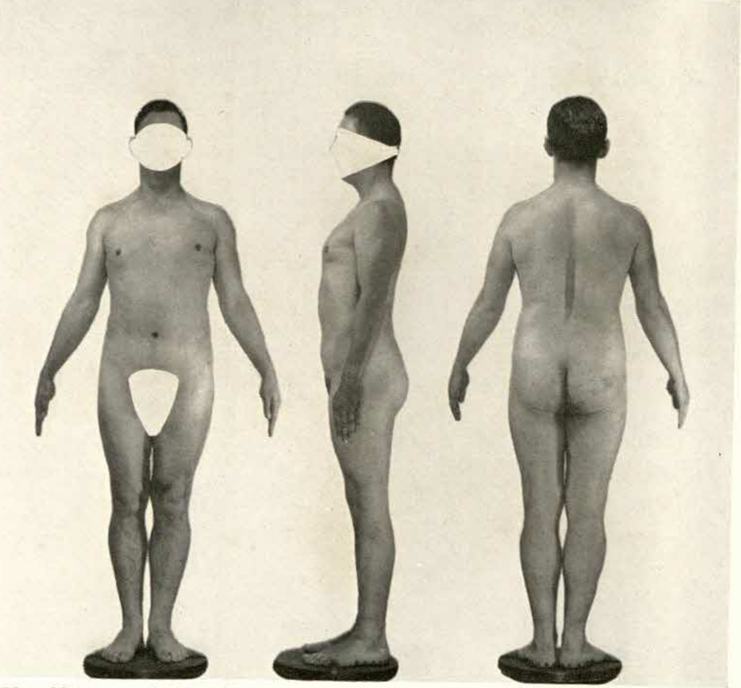


No. 922 *5 3 2* (*5*) 5 3 2–5 3 3 (5 3 2½) 12.50 at 24
5 3 2½, 5 3 2½, 5 3 3, 5 3 2½, 5 3 2½

532

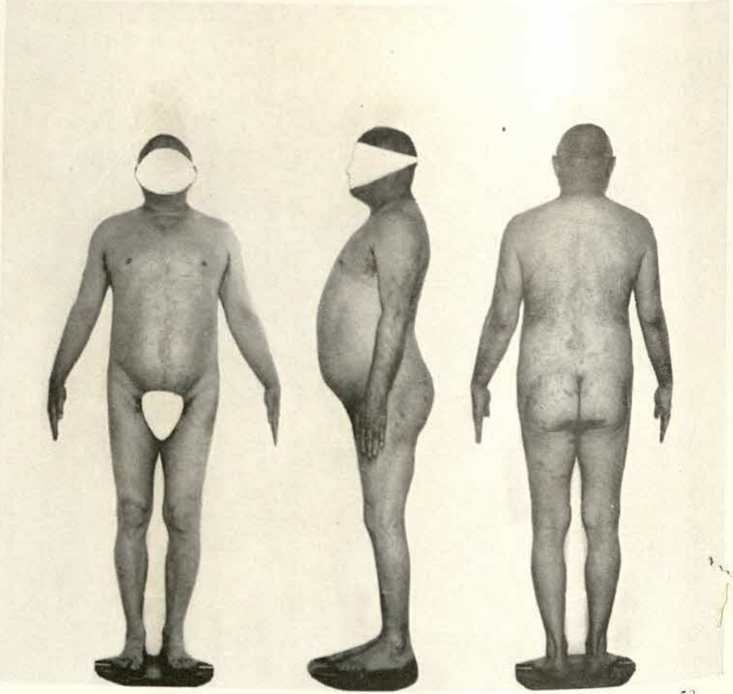


No. 923 *5 3 2* (*6*) 5 3 2–5 4 1 (5 3½ 1½) 12.45 at 19
5 3½ 1½, 5 3½ 1½, 5 3 2, 5 3 2, 5 3½ 1½

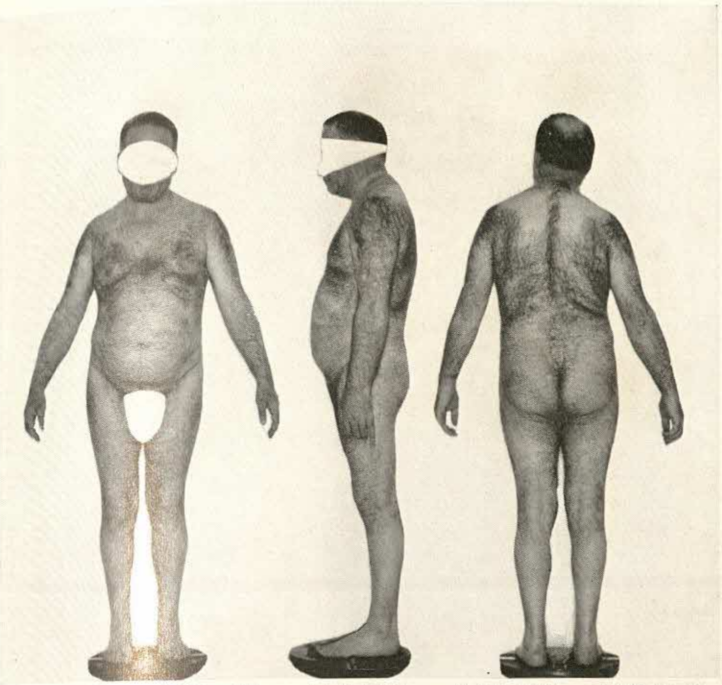


No. 924 *5 3 2* (*7*) 5 3 2–5 4 1 (5 3½ 1½) 12.01 at 29
4½ 3½ 2, 5 3½ 1½, 5 3 2, 5 3½ 1½, 4½ 4 1½

532



No. 925 *5 3 2* (*8*) 5 3 2–5 4 1 (5 3½ 1½) 11.47 at 53
5 4 1, 5 4 1½, 5 3½ 1½, 5 3½ 1½, 4½ 3½ 2



No. 926 *5 3 2* *(9)* 5 3 2–5 4 1 (5 3½ 1½) 11.50 at 60
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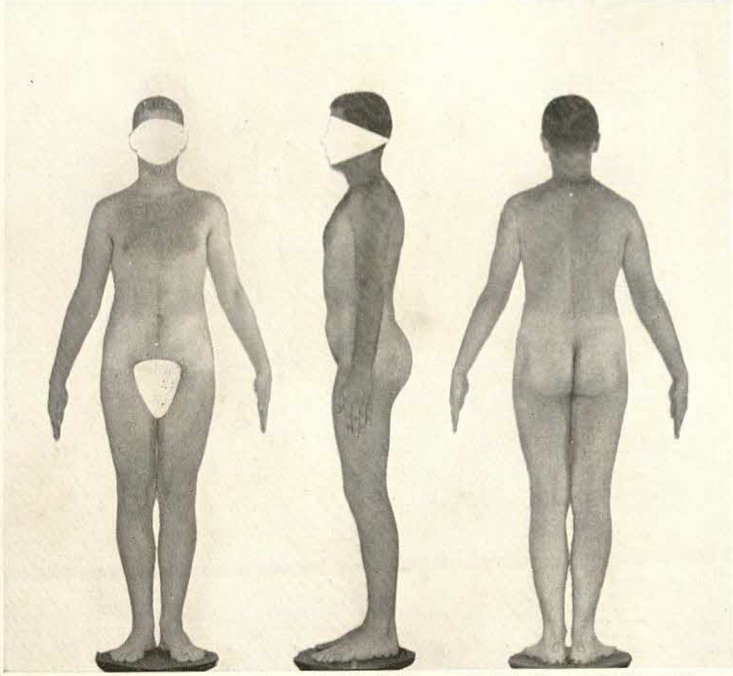
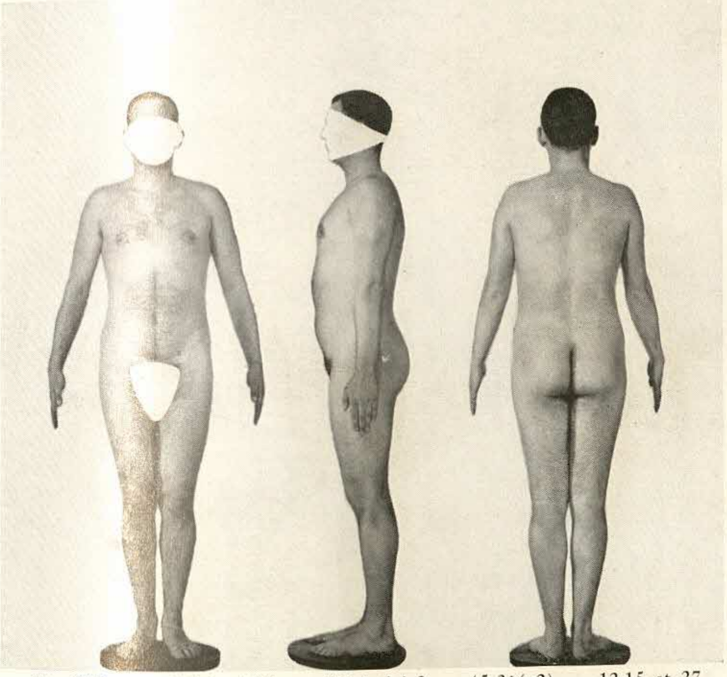
532

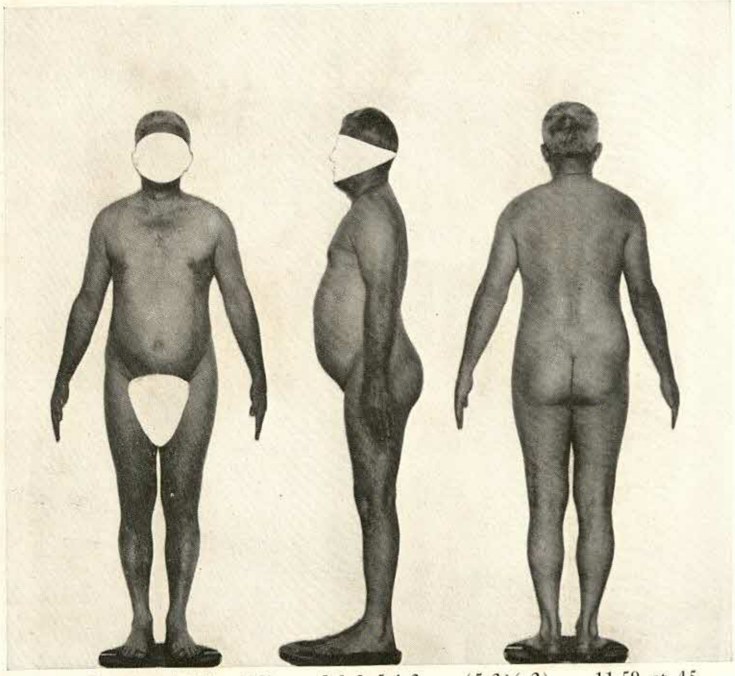


No. 927 *5 3 2* *(10)* 5 3 2–5 4 2 (5 3½ 2) 12.62 at 18
5 3½ 2, 5½ 3 1½, 5 3 2½, 5 3½ 2, 5 3½ 2½

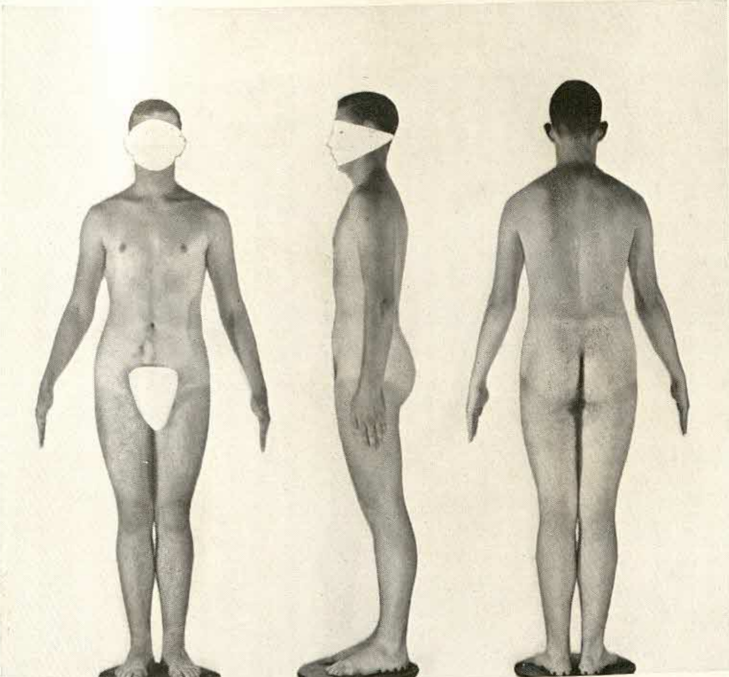


No. 928 *5 3 2* *(11)* 5 3 2–5 4 2 (5 3½ 2) 12.15 at 27
5 3 2, 5 3½ 1½, 5 3½ 2, 5 3½ 2, 5 4 2

532

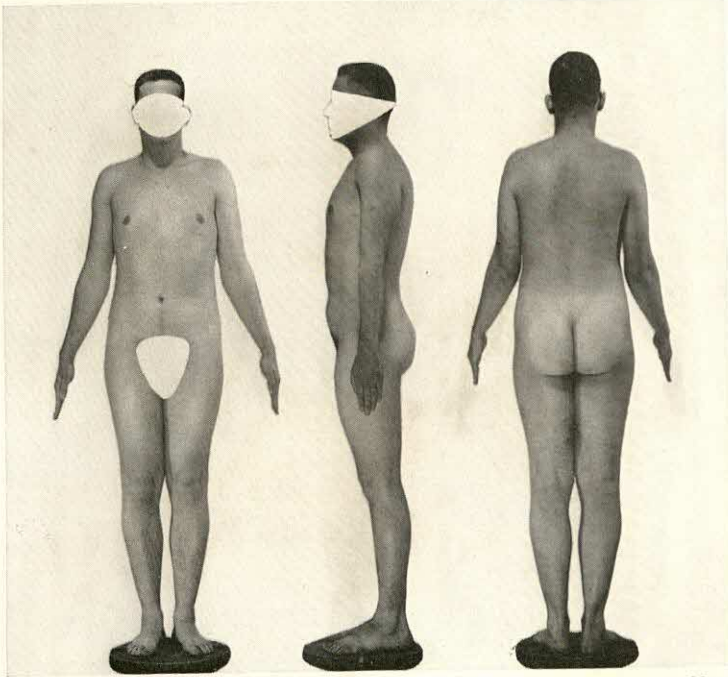


No. 929 *5 3 2* *(12)* 5 3 2–5 4 2 (5 3½ 2) 11.59 at 45
5 3½ 2, 5 3 2, 5 3½ 2, 5 3½ 2, 4½ 4 2½

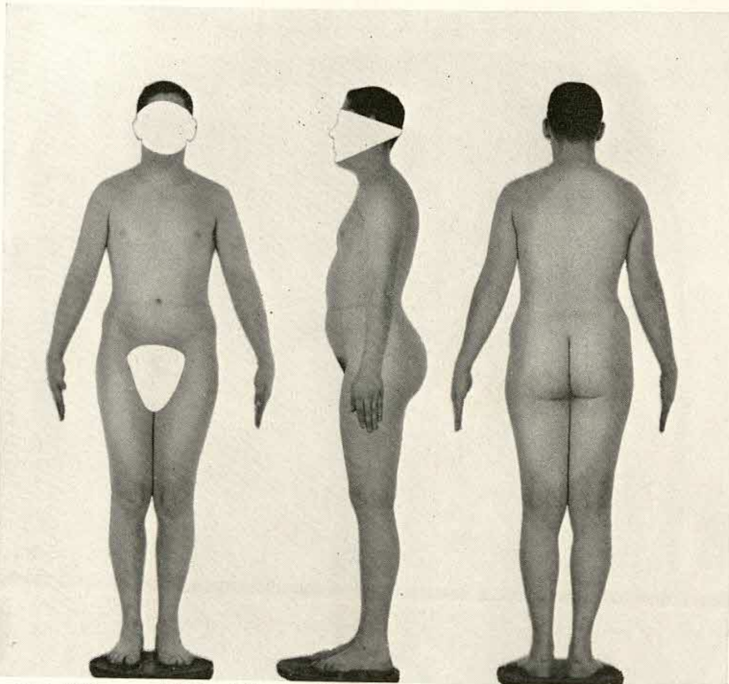


No. 930 *5 3 2* *(13)* 5 3 2–5 4 3 (5 3½ 2½) 12 71 at 18
5 3 2½, 5 3½ 2½, 5 3½ 2½, 5 3½ 2½, 5½ 3 2

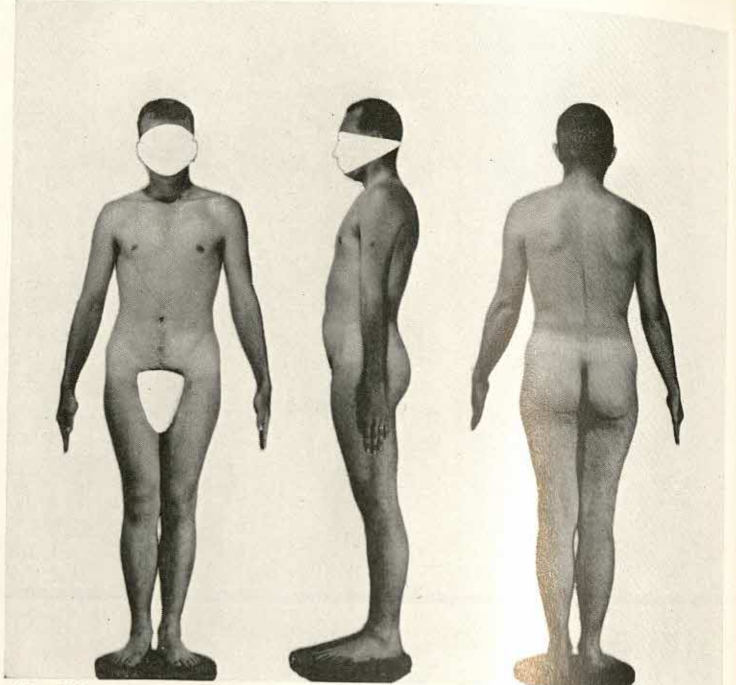
532



No. 931 *5 3 2* *(14)* 5 3 2–5 4 3 (5 3½ 2½) 12.44 at 23
5 3½ 2½, 5 3½ 2½, 5 3½ 2½, 5 4 2½, 5 4 2½

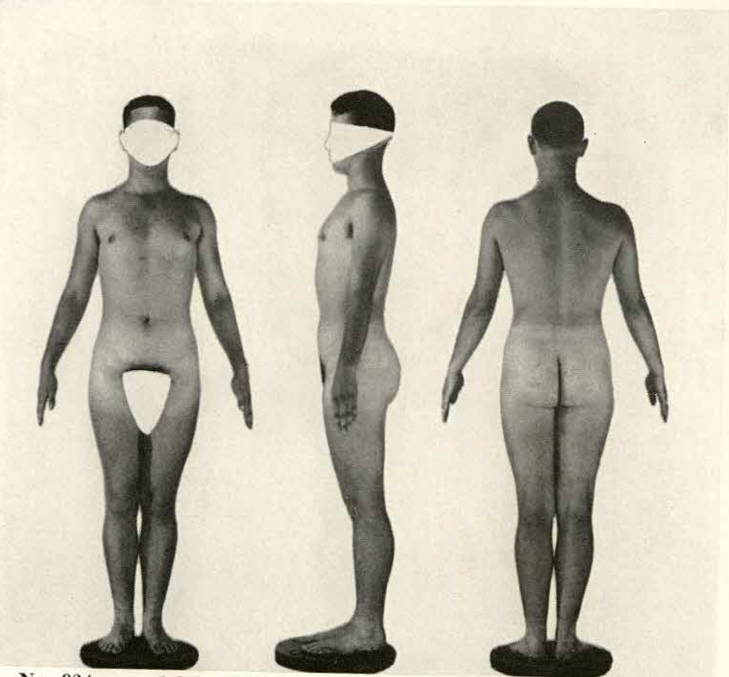


No. 932 *5 3 2* (*15*) 5 3 2–5 4 3 (5 3½ 2½) 12.20 at 30
5 3½ 2, 5 3½ 2½, 5 3 2, 5 3½ 2½, 5 3½ 2½

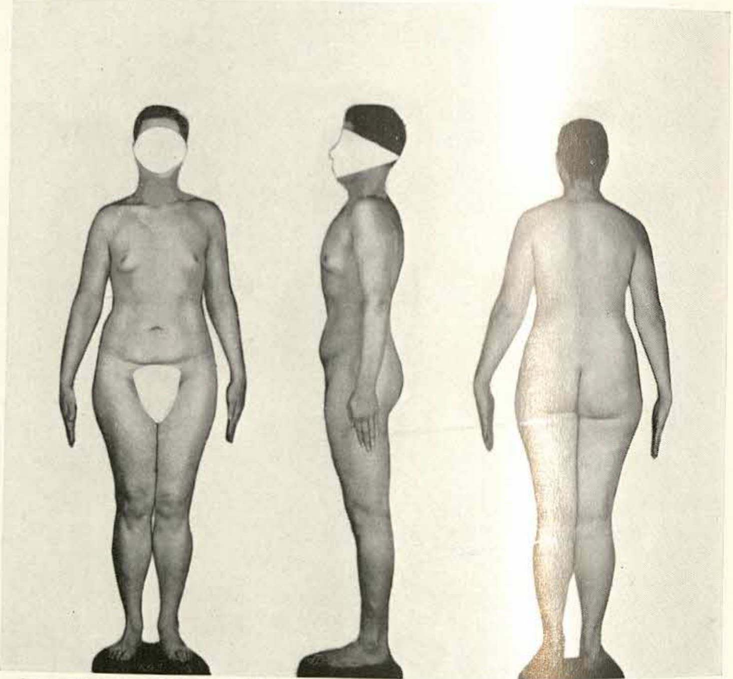


No. 933 *5 3 2* (*16*) 5 3 2–6 3 1 (5½ 3 1½) 12.22 at 20
5½ 3 2, 5 3½ 1½, 5 3 2, 5½ 3 1½, 5½ 3½ 1½

532

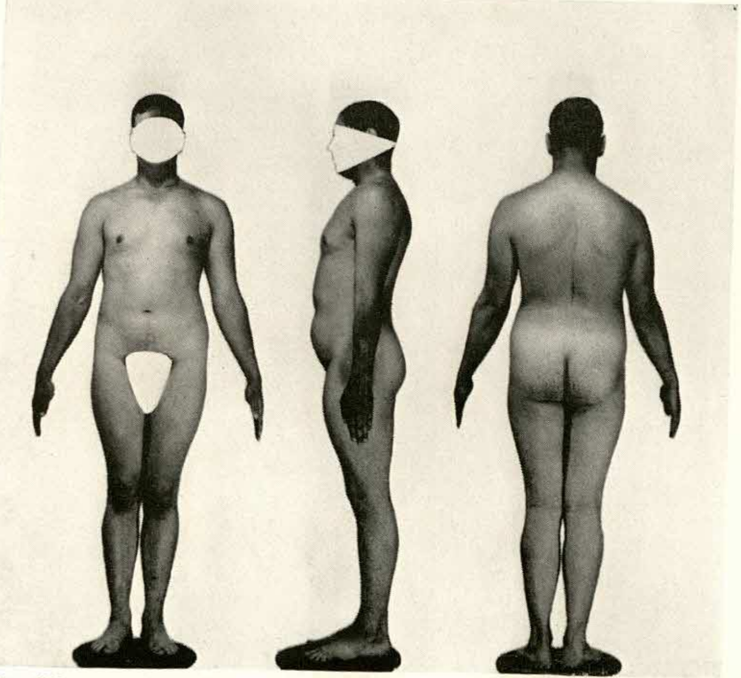


No. 934 *5 3 2* (*17*) 5 3 2–6 3 2 (5½ 3 2) 12.43 at 18
5 3 2, 5½ 3 2, 5½ 2½ 2, 5½ 3 2, 5½ 3 1½

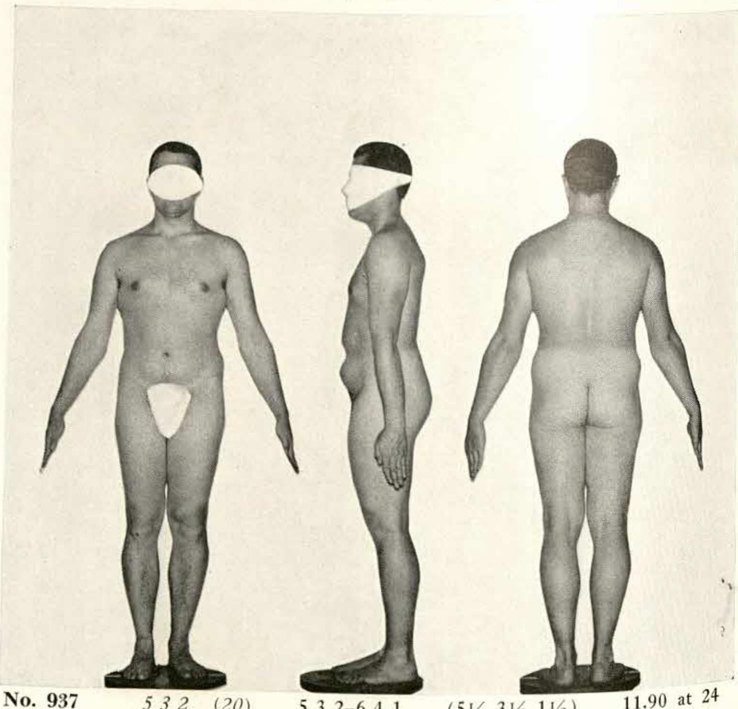


No. 935 *5 3 2* (*18*) 5 3 2–6 3 2 (5½ 3 2) 11.97 at 29
5½ 3 2½, 5½ 3 2, 5½ 2½ 2½, 5½ 2½ 2, 6 3 2

532



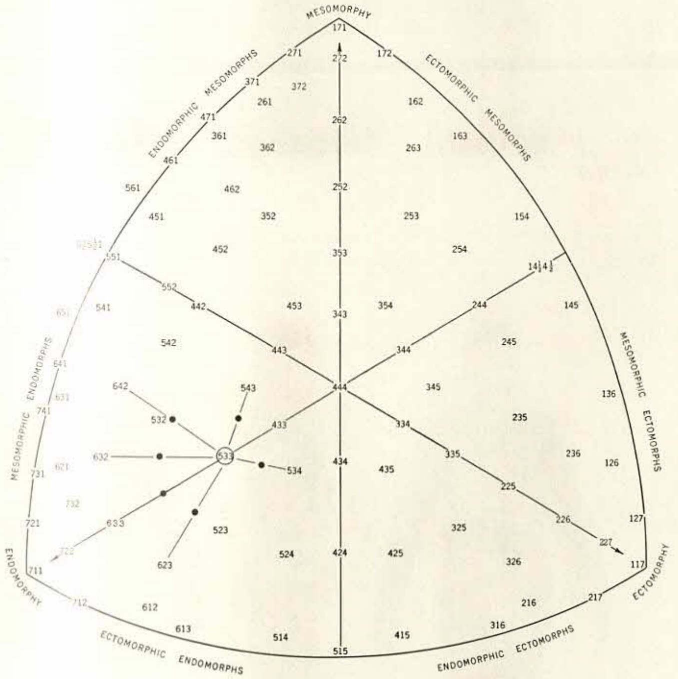
No. 936 *5 3 2* (*19*) 5 3 2–6 4 1 (5½ 3½ 1½) 12.09 at 20
5 3½ 1½, 5½ 4½ 1, 5½ 3½ 2, 5½ 3½ 1½, 5½ 3½ 2



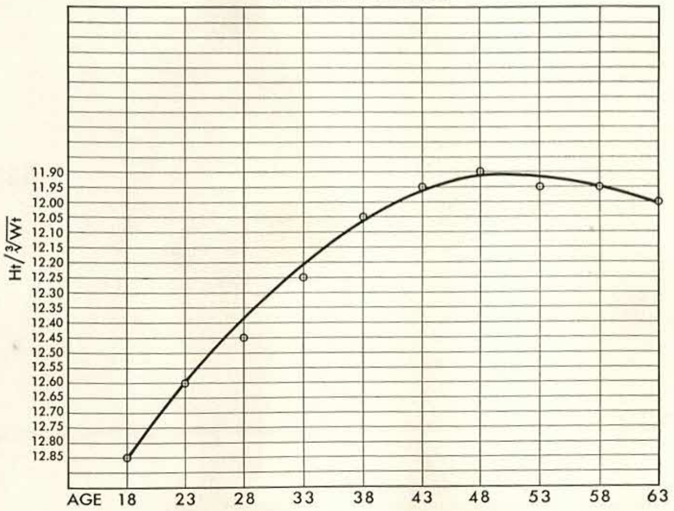
No. 937 *5 3 2* (*20*) 5 3 2–6 4 1 (5½ 3½ 1½) 11.90 at 24
5 3½ 1½, 5½ 3½ 2, 5½ 3 2, 5½ 3 1½, 5 4 1½

532

Somatotype 5 3 3 *(Balanced endomorphy, 11-level.) The tamandua, a larger South American anteater. He also has a heavy tail, no teeth, and a most amazing tongue, but a longer head and a somewhat more elongated body than the aardvark. Nos. 942–954.*



SOMATOTYPE 533



Weight for Age and Height

Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	199	210	220	232	244	249	252	250	249	246
74	190	201	210	222	232	238	241	239	238	235
73	183	193	202	213	222	229	232	230	228	226
72	175	185	193	204	213	219	222	220	219	217
71	168	178	186	196	205	211	213	211	210	208
70	162	170	178	188	196	202	205	203	202	200
69	155	164	171	180	188	194	196	193	193	192
68	148	157	164	172	180	185	188	186	185	183
67	142	149	157	165	172	177	179	178	177	175
66	135	143	149	157	165	169	171	169	169	167
65	129	136	143	150	157	161	164	162	161	160
64	123	130	136	143	150	154	156	154	154	153
63	118	124	130	137	143	147	149	147	147	145
62	112	118	124	130	136	140	142	141	140	138
61	107	113	118	124	130	133	135	134	133	132

Rarity 2. Incidence 18 per thousand. Commonest of the family; just a little more than half as common as its ectomorphic permutant the 3 3 5, and one third as common as its mesomorphic permutant the 3 5 3. Probably the commonest female somatotype.

Unlike the great cats, the anteaters have no teeth to bite with, but they pick up a living with their remarkable tongues. Unlike the great cat somatotypes the anteater somatotypes have virtually no fighting power, but they are inclined to be remarkable talkers. When we reached the endomorphic somatotypes we entered the territory of viscerotonia, which among other things means sociableness, talkativeness, and an incessant appetite for more intimate relationship to other people. I am not here referring to sexual relationship, for with endomorphy (in the male) we begin to leave sexuality behind. Viscerotonic people are everlasting talkers about *personal* matters, which is to say that they are gossips. That is what supplies the main basis for their fraternity with the anteaters. They derive a principal ecstasy from the tongue, and possibly it should be noted that women, being more endomorphic than men, have on occasion been known to work their tongues harder than the situation seemed to demand, or even, as it were, just for the exercise. There are temperaments that cannot understand such a motivation, but would exclaim with Clarence Day:

> The earth is used to bores.
> It heard for ages long
> The Saurians' complacent roars
> And the halting birth of song.
> These restless tongues, their lust
> For action never dies.
> The noisiness of living dust
> Astonishes the skies.[1]

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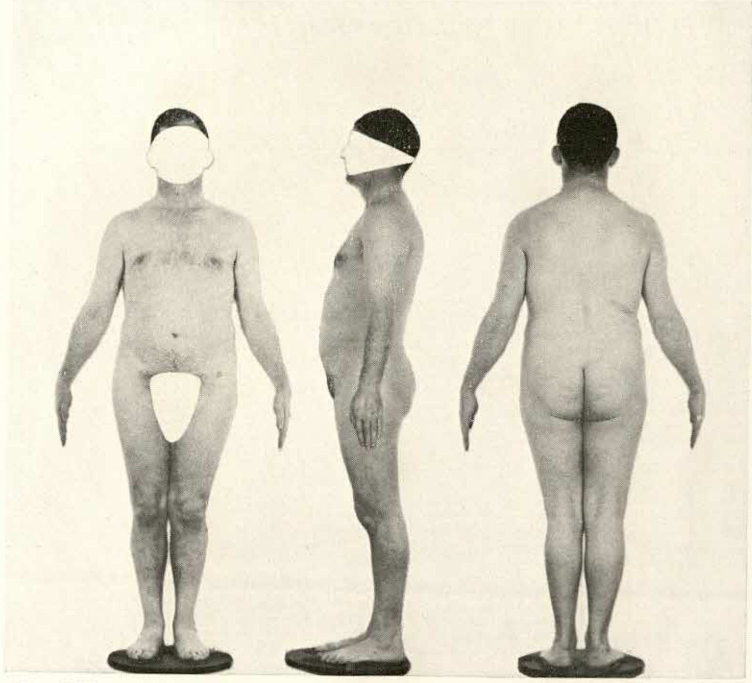
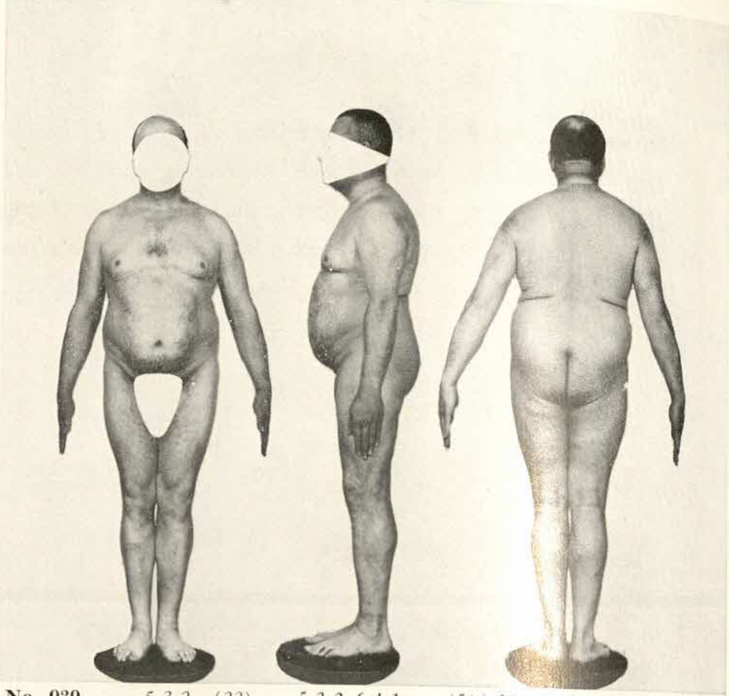
[1] From *Scenes from the Mesozoic.* Reprinted with permission of Yale University Press.

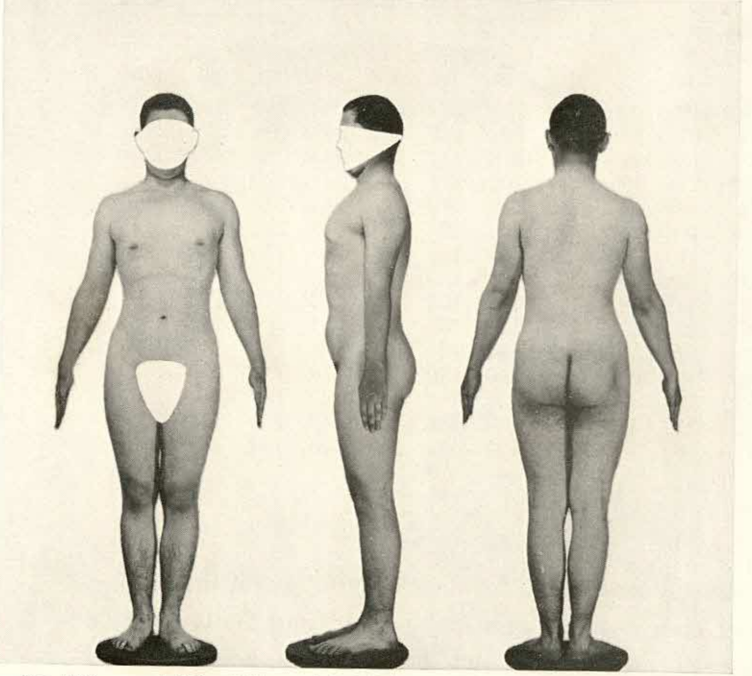


No. 938 *5 3 2* (*21*) 5 3 2–6 4 1 (5½ 3½ 1½) 11.51 at 33
6 3½ 1½, 5½ 3½ 1½, 5½ 3 1½, 5½ 3½ 1½, 5½ 3½ 1½

532

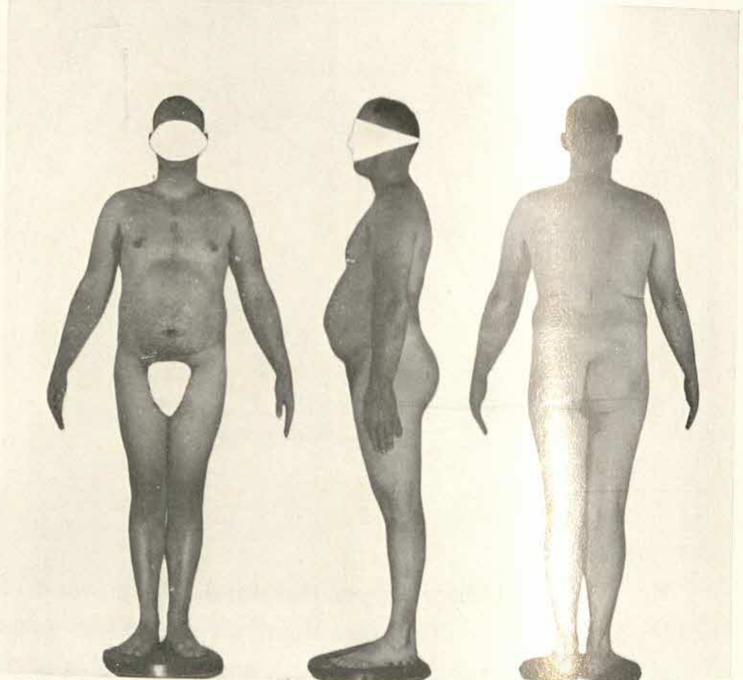


No. 939 *5 3 2* (*22*) 5 3 2–6 4 1 (5½ 3½ 1½) 11.17 at 55
5 3½ 1½, 5½ 4 1, 5 3½ 2, 5½ 3½ 1, 5½ 3 2

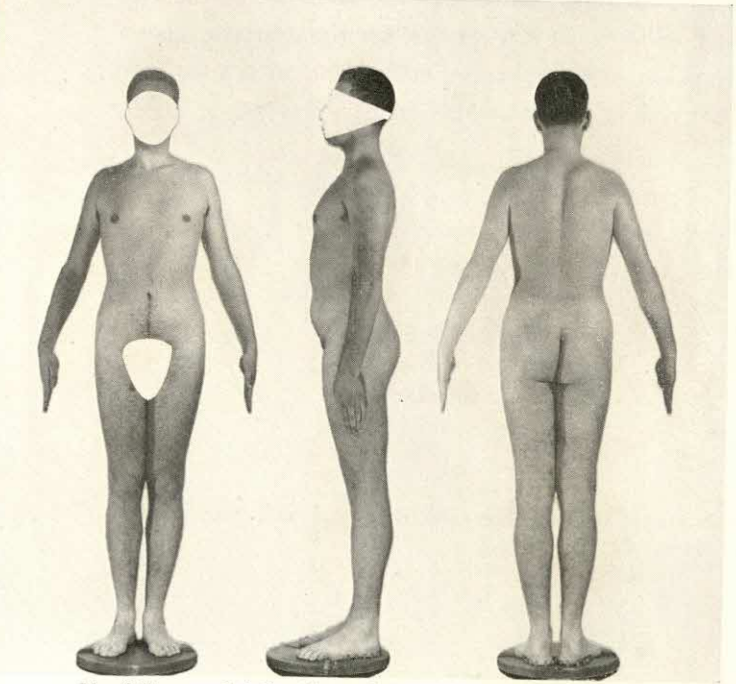


No. 940 *5 3 2* (*23*) 5 3 2–6 4 2 (5½ 3½ 2) 12.29 at 19
5½ 3½ 1½, 5½ 3½ 1½, 5½ 3 2½, 5½ 3½ 2, 5½ 4 1½

532

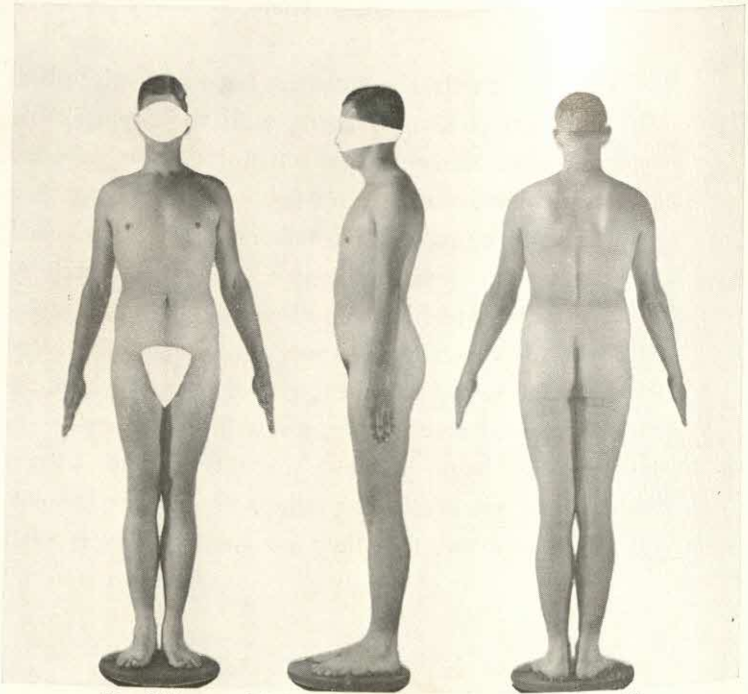


No. 941 *5 3 2* (*24*) 5 3 2–6 4 2 (5½ 3½ 2) 11.63 at 32
5 3½ 2, 5½ 3½ 2½, 5½ 3½ 1½, 5½ 3 2, 5½ 3 2½

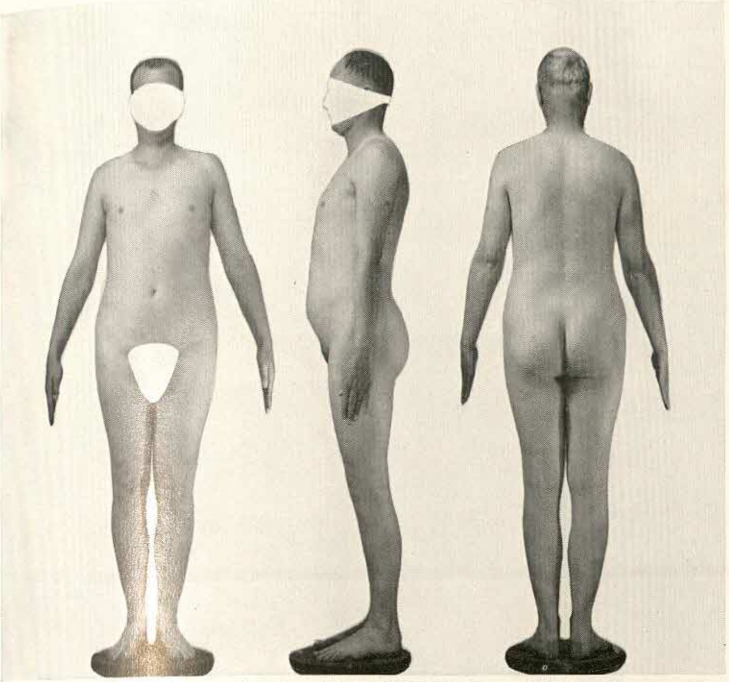


No. 942 *5 3 3* (*1*) 5 3 3–5 3 3 12.83 at 19
5 2½ 3, 5 3 2½, 5 2½ 3½, 5 3 3, 5 3 3

533

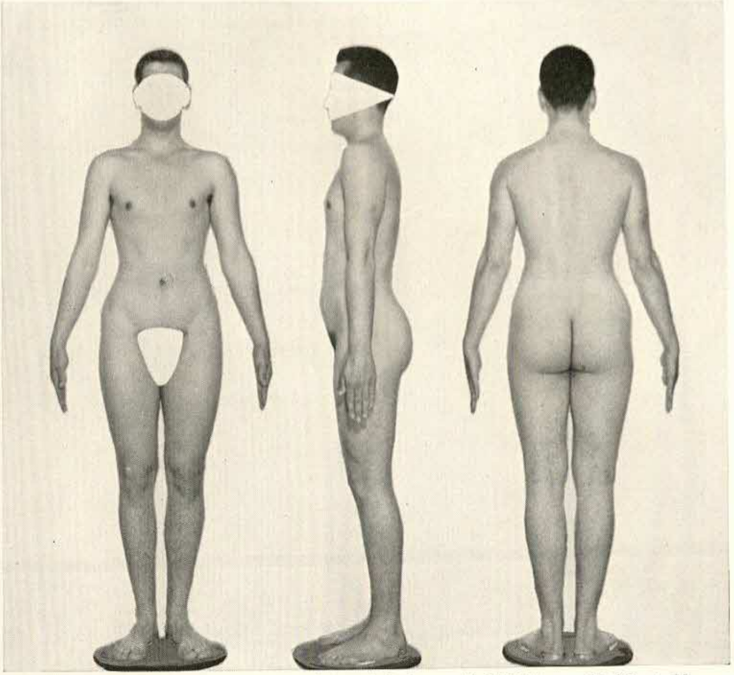


No. 943 *5 3 3* (*2*) 5 3 3–5 3 3 12.62 at 22
5 2 3½, 5 3 3, 5 3 3, 5 3 3, 5 3 3

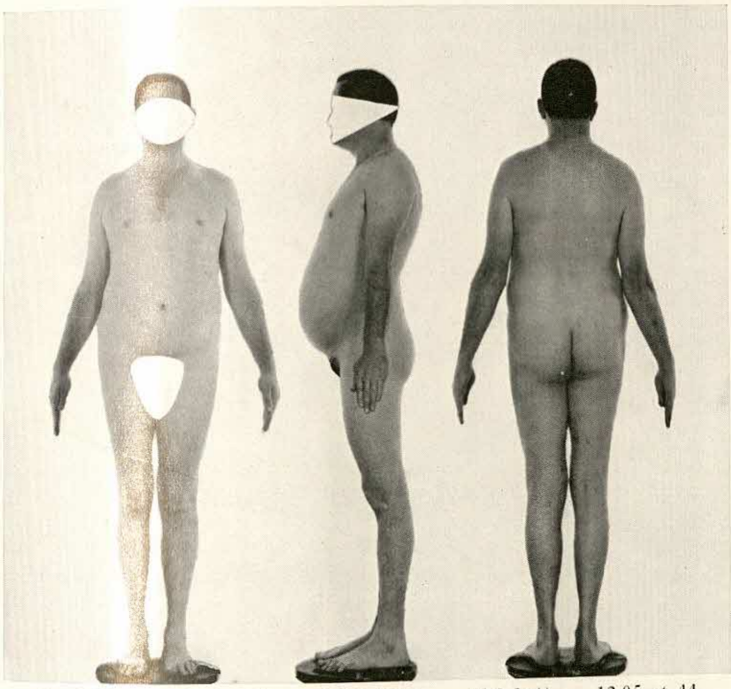


No. 944 *5 3 3* (*3*) 5 3 3–5 3 3 12.24 at 33
5 3 3, 5 2½ 3, 5 2½ 3½, 5 3½ 3, 5 3½ 3

533

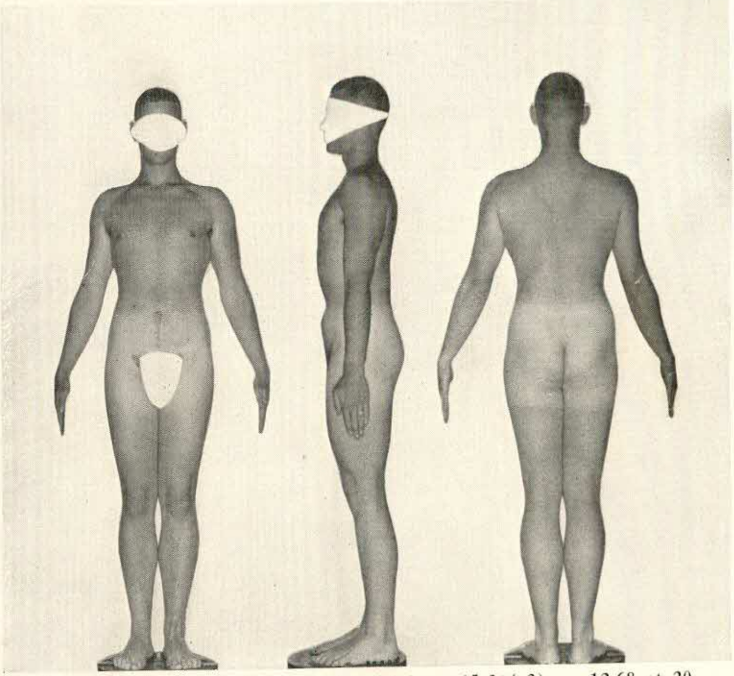


No. 945 *5 3 3* (*4*) 5 3 3–5 3 4 (5 3 3½) 12.92 at 19
4½ 3 3½, 5 3 4, 5 3 3½, 5 3 4, 5 3 3½

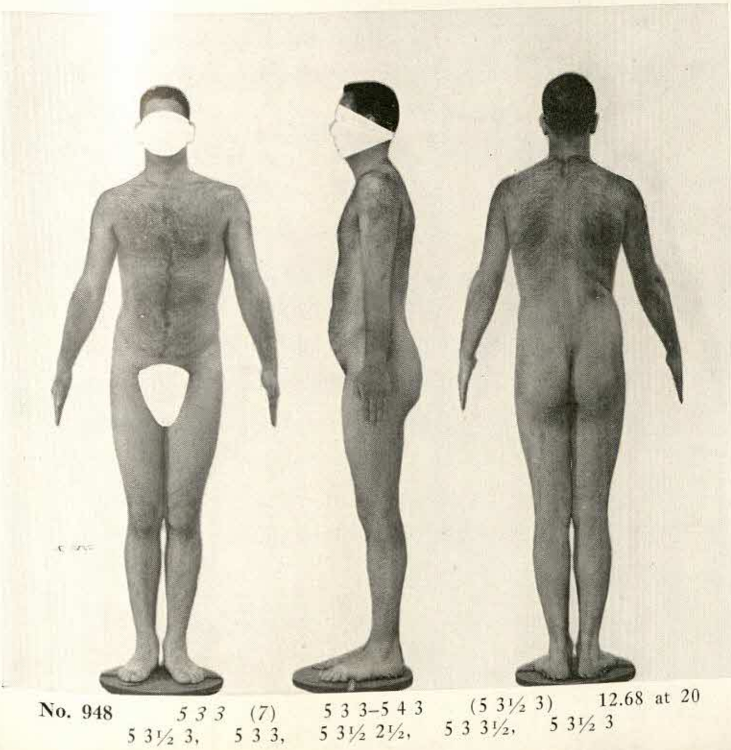


No. 946 *5 3 3* (*5*) 5 3 3–5 3 4 (5 3 3½) 12.05 at 44
5½ 3 3, 5 3 3½, 5 3 3, 5 3 3, 5 2½ 4½

533

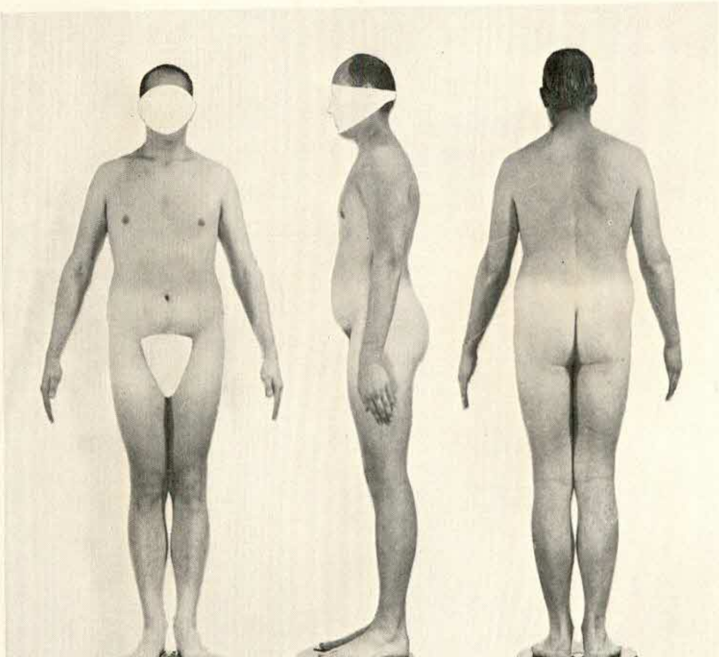


No. 947 *5 3 3* (*6*) 5 3 3–5 4 3 (5 3½ 3) 12.68 at 20
4½ 3 3½, 5 3½ 3, 5 3½ 3, 5 3 3½, 5½ 3½ 2

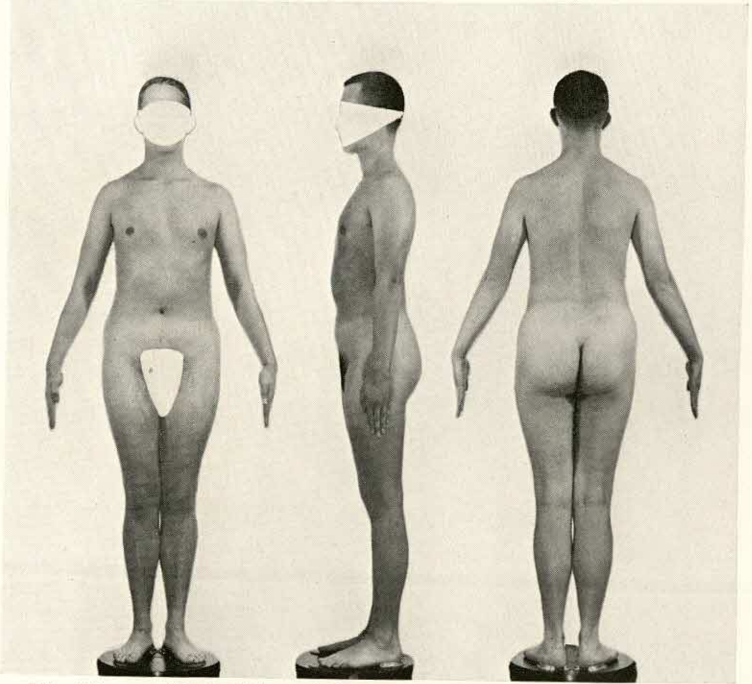


No. 948 *5 3 3* (*7*) 5 3 3–5 4 3 (5 3½ 3) 12.68 at 20
5 3½ 3, 5 3 3, 5 3½ 2½, 5 3 3½, 5 3½ 3

533

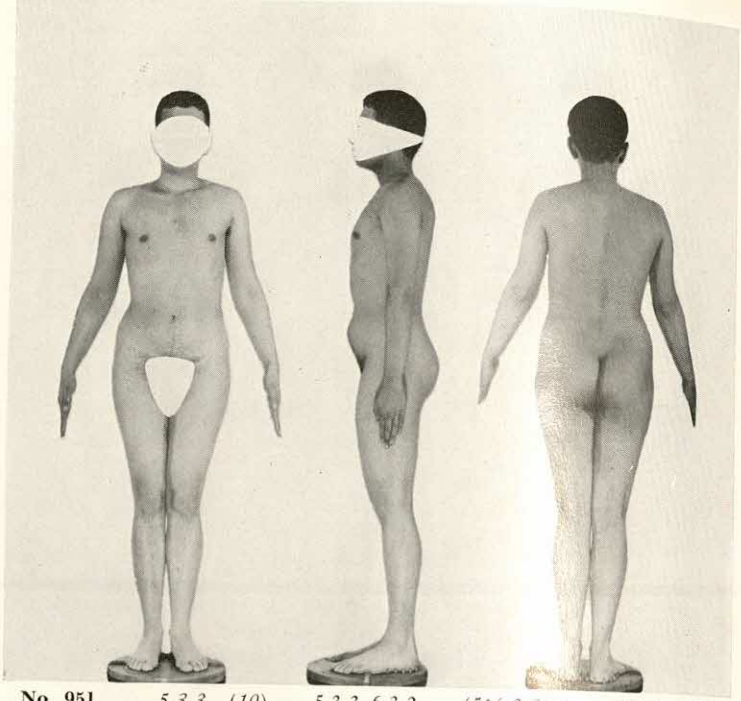


No. 949 *5 3 3* (*8*) 5 3 3–5 4 3 (5 3½ 3) 12.37 at 27
5 3½ 3, 5 3½ 3, 5 3 3½, 5 3½ 3, 5 3½ 3½

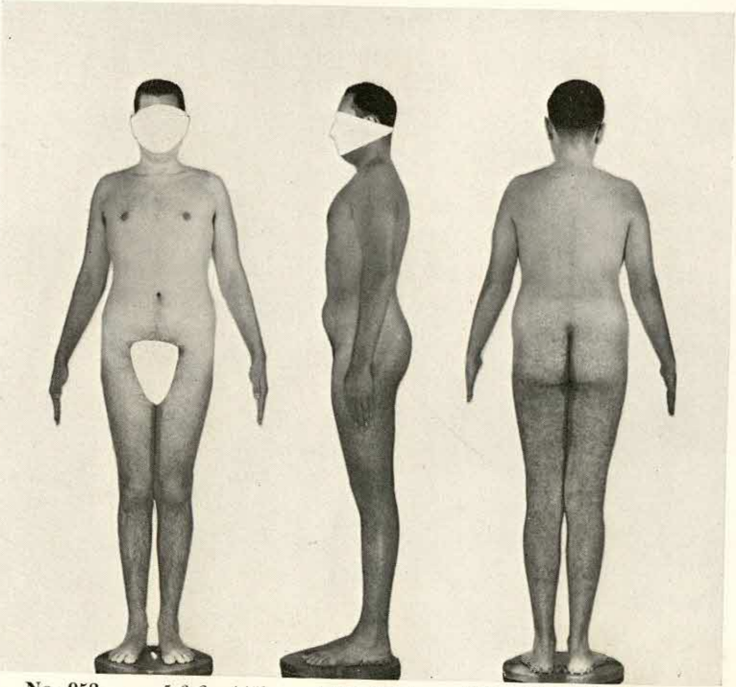


No. 950 *5 3 3* (*9*) 5 3 3–6 2 3 (5½ 2½ 3) 12.68 at 18
5 3 3, 5 2½ 3, 5½ 2½ 3, 5½ 2½ 3, 5½ 3 3

533

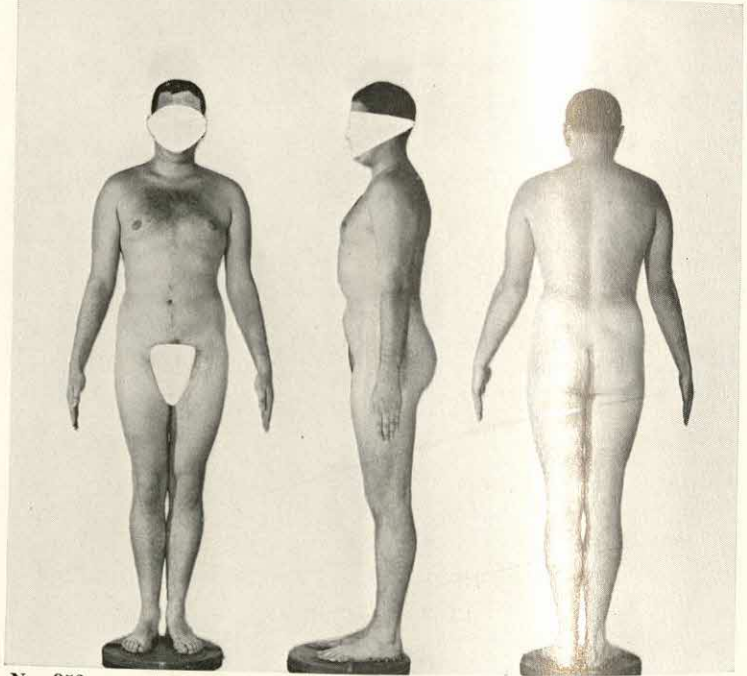


No. 951 *5 3 3* (*10*) 5 3 3–6 3 2 (5½ 3 2½) 12.51 at 19
5½ 3 3, 5½ 3 2, 5½ 2½ 2½, 5½ 3 2½, 5½ 2½ 2½

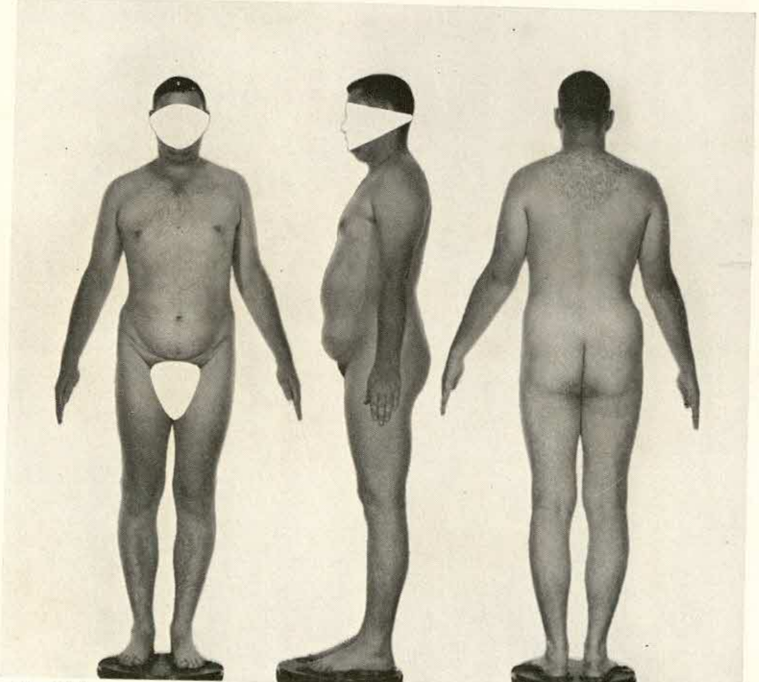


No. 952 *5 3 3* (*11*) 5 3 3–6 3 3 (5½ 3 3) 12.64 at 18
5½ 3 3, 5½ 3 2½, 5½ 3 3½, 5½ 3 3, 5½ 2½ 3

533

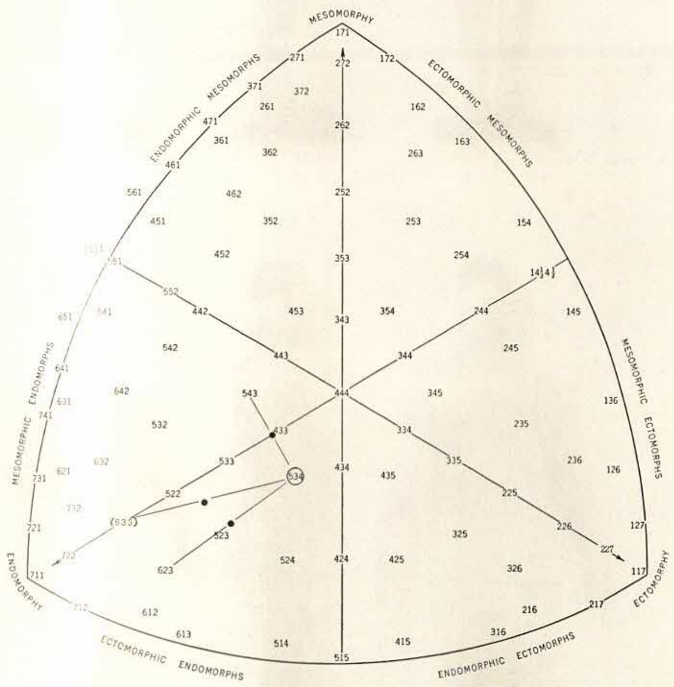


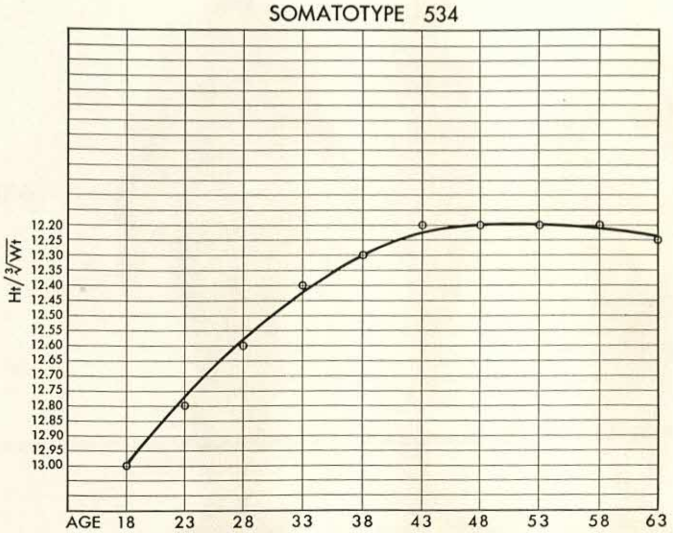
No. 953 *5 3 3* (*12*) 5 3 3–6 4 2 (5½ 3½ 2½) 12.20 at 21
5½ 3½ 2, 5½ 3½ 2½, 5½ 3½ 2½, 5½ 3½ 2½, 5½ 3½ 2½



No. 954 *5 3 3* (*13*) 5 3 3–6 4 2 (5½ 3½ 2½) 11.97 at 27
5½ 3½ 2½, 5½ 3½ 2½, 5½ 3½ 1½, 5½ 3½ 2½, 5 3½ 2½

Somatotype 5 3 4 *(Ectomorphic endomorphy, 12-level.) The tamanoir, or great anteater. Sometimes called ant bear. The ectomorph of the anteaters, reaching 70 inches or more in length, but his pride is in his fleshy tail which in itself is not ectomorphic at all. Nos. 955–959.*



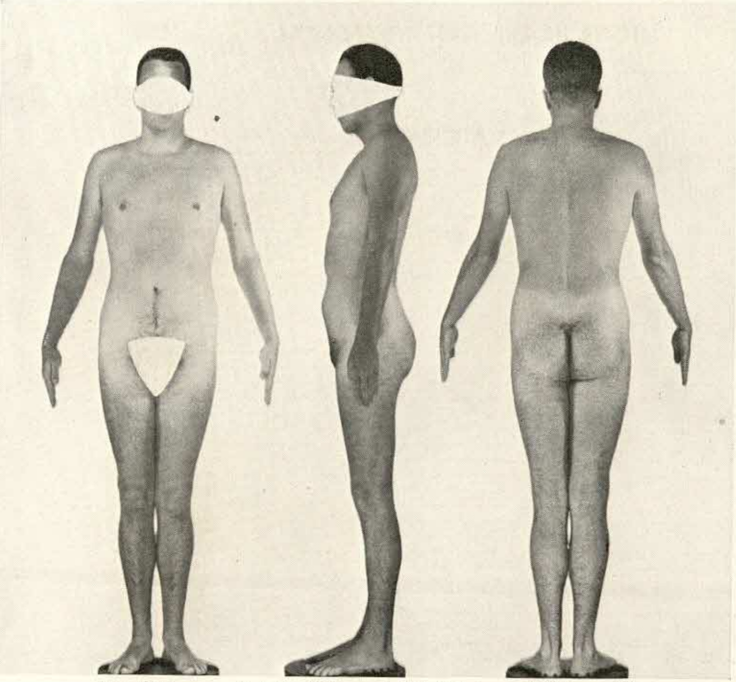


Weight for Age and Height

Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	192	200	208	219	226	233	233	230	230	229
74	183	192	200	211	217	223	223	221	221	221
73	176	184	192	202	209	215	215	213	213	213
72	169	177	185	194	201	207	207	205	205	205
71	163	170	178	187	193	198	198	197	197	197
70	156	163	170	179	185	190	190	189	189	189
69	150	157	164	172	177	182	182	181	181	181
68	143	150	157	165	169	174	174	173	173	173
67	137	143	149	157	162	167	167	166	166	165
66	131	137	143	150	155	159	159	158	158	158
65	125	131	136	143	148	152	152	151	151	151
64	119	125	130	137	141	145	145	144	144	144
63	114	119	124	131	134	138	138	137	137	137
62	108	113	118	125	128	132	132	131	131	131
61	103	108	113	119	122	125	125	125	125	124

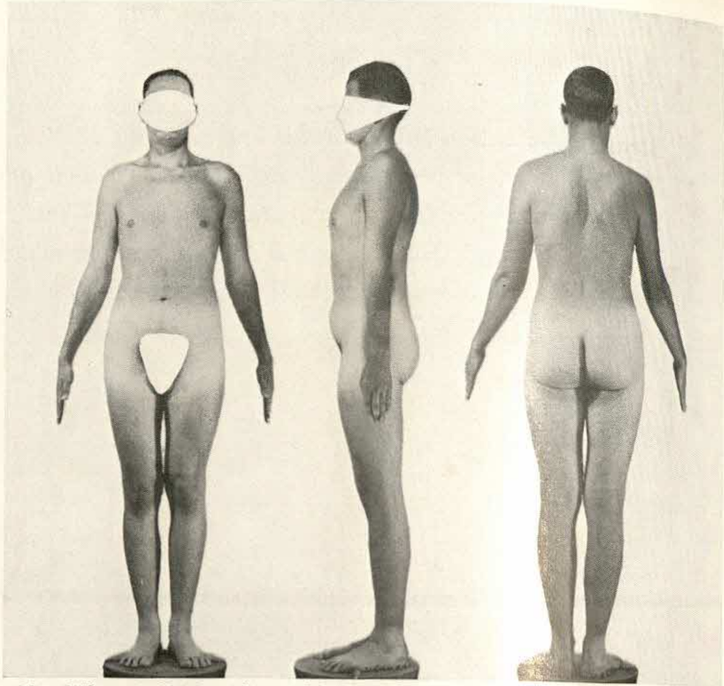
Rarity 3. Incidence 10 per thousand. As the nutrition curves indicate, all three of the anteater somatotypes are represented in our series at least as late as the mid-seventh decade, although the ectopenic 5 3 2 appears to be jettisoning weight fast in that decade. More accurately, it is probably those who *have* jettisoned weight that tend to reach that age. It is the 5 3 4 whose curve is flattest in the last two decades, and so one intimation is that this somatotype is longer lived than the other two. However, it is also this somatotype which, in the present series, reached its maximal weight earliest, and that would seem to contraindicate long life. So here the data are in a minor sense contradictory, and to settle the point a much larger study is needed. But in the main it is clear that these three somatotypes, while not of the extremely long lived group, are still moderately long lived. Similarly, they are of moderately frequent occurrence although by no means common. If we were to run a correlation between frequency of occurrence of the somatotype and longevity it is almost certain (from the evidence of the nutrition curves) that the correlation would be positive, but this would not be maximally meaningful until the data on longevity can be greatly strengthened by a longitudinal study extending across at least one human lifetime.

The 5 3 4 is more often found "slim" or below the normal weight in middle age than either of the other members of the family. Possibly this is a consequence of the greater strength in the third (inhibitory) component. Cerebrotonia means inhibition, and one of the things that cerebrotonia seems to inhibit is the tendency to burgeon or to grow fat beyond the norm for the somatotype.

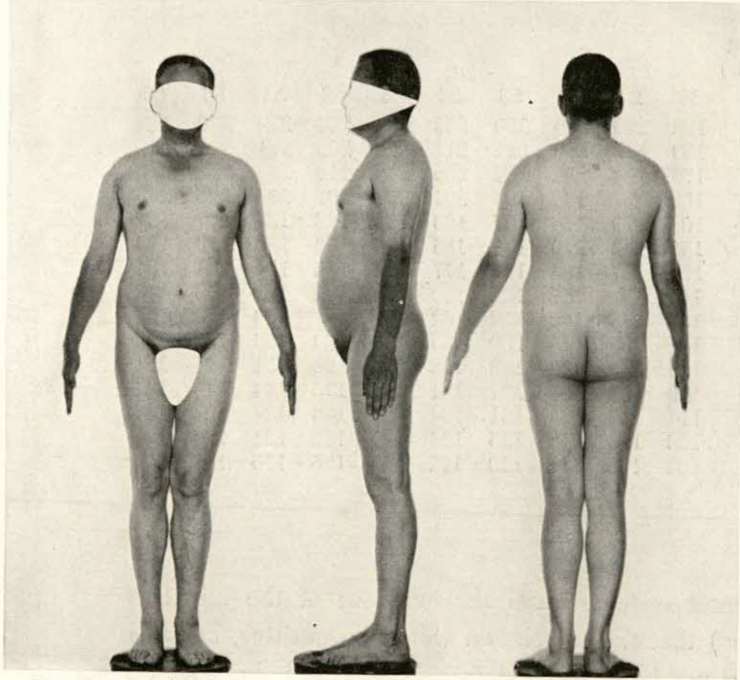


No. 955 *5 3 4* *(1)* 5 3 4–5 3 4 12.99 at 19
5 3 3½, 5 3 4, 5 3 4, 5 3 4, 5 3 4

534

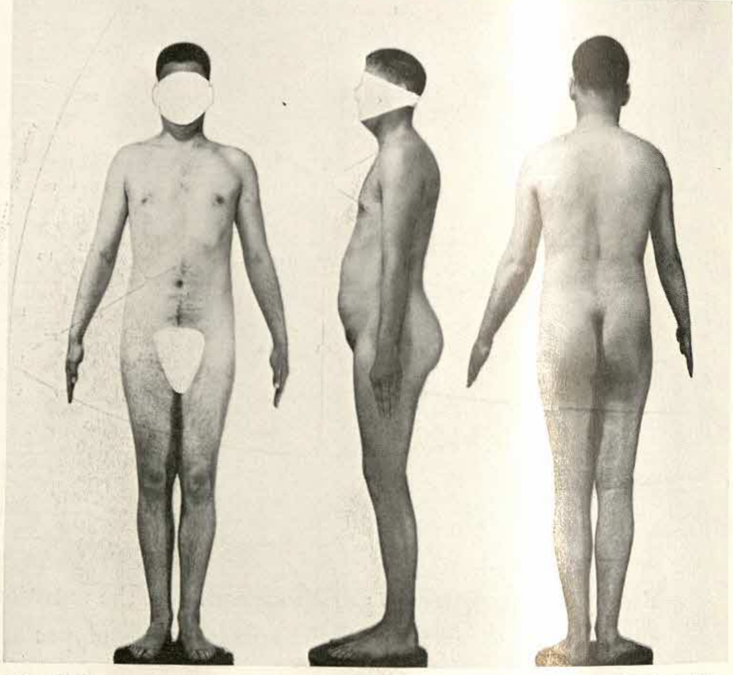


No. 956 *5 3 4* *(2)* 5 3 4–5 4 3 (5 3½ 3½) 12.82 at 19
4½ 3½ 4, 5 3½ 3½, 5 3 3½, 5 3 3, 5 3½ 3

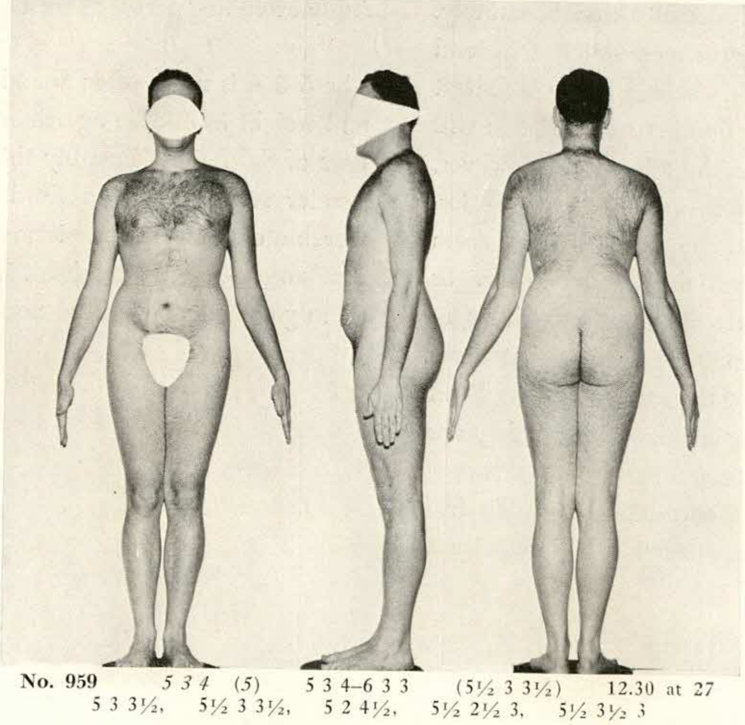


No. 957 *5 3 4* *(3)* 5 3 4–5 4 3 (5 3½ 3½) 11.97 at 43
5 3½ 3½, 5 4 3, 5 3½ 3½, 5 3½ 3, 5 3½ 3½

534



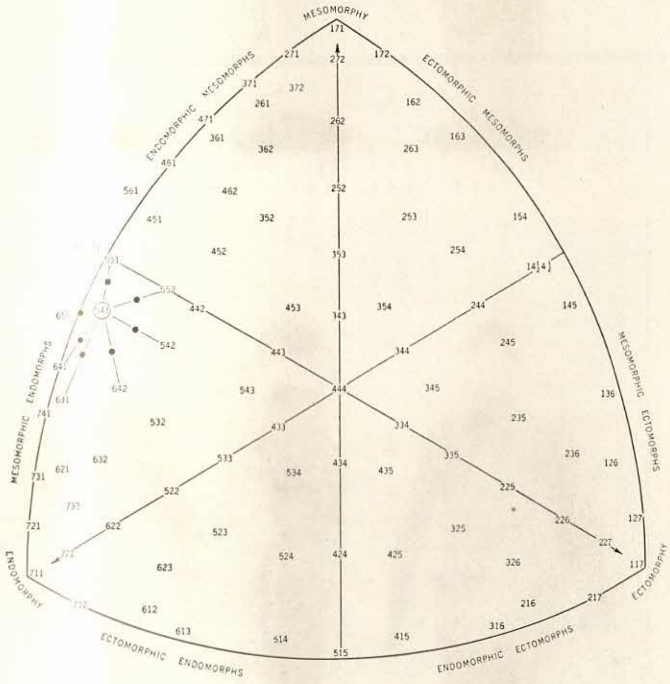
No. 958 *5 3 4* *(4)* 5 3 4–6 2 3 (5½ 2½ 3½) 12.64 at 20
5 3 3½, 5½ 2½ 3½, 5½ 2½ 3½, 5½ 2½ 3½, 5 2½ 3½



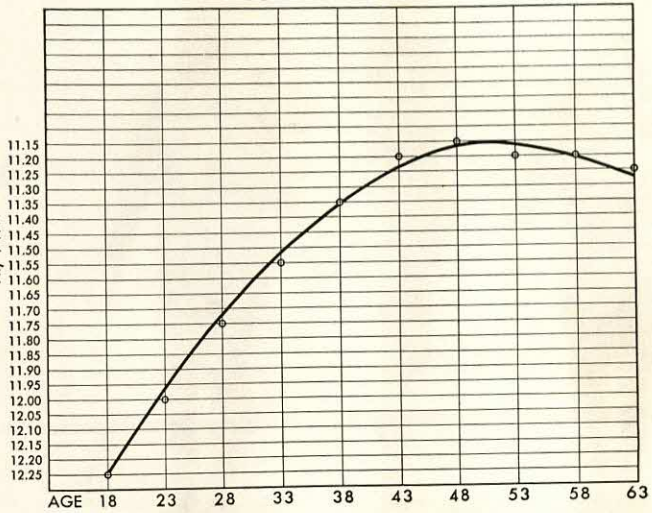
No. 959 *5 3 4* *(5)* 5 3 4–6 3 3 (5½ 3 3½) 12.30 at 27
5 3 3½, 5½ 3 3½, 5 2 4½, 5½ 2½ 3, 5½ 3½ 3

32. OXEN

Somatotype 5 4 1 *(Mesomorphic endomorphy at extreme ectopenia.) The sturdy Angus ox. Heavier, fatter, more stolid than the Angus of the beautiful Gaelic legend, and so of course more moral. Nos. 960–982.*



SOMATOTYPE 541



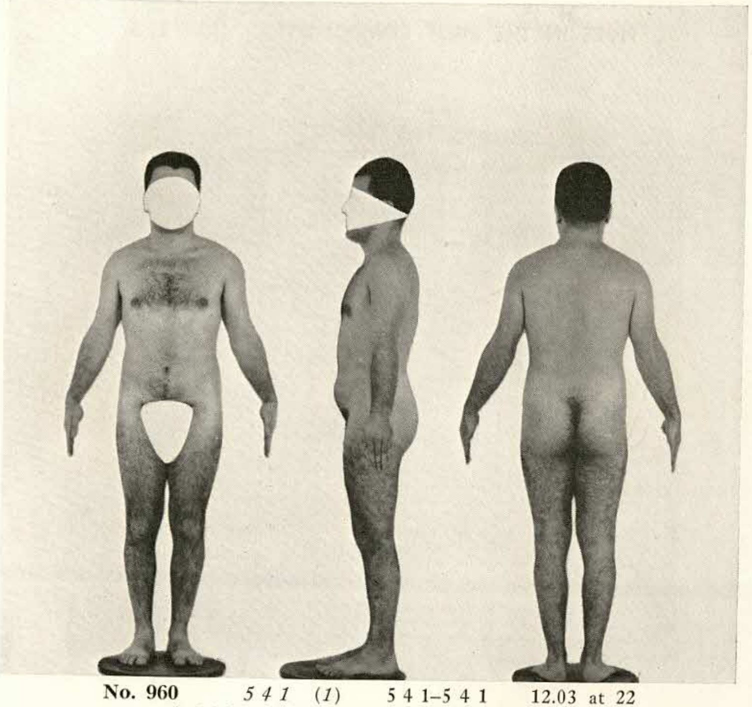
Weight for Age and Height

Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	229	245	260	271	286	302	303	302	302	299
74	221	235	250	261	275	288	290	289	289	287
73	211	225	239	249	263	275	277	276	276	274
72	203	217	230	240	253	264	266	265	265	263
71	195	208	221	231	243	254	255	255	254	252
70	187	200	212	222	233	243	245	245	244	242
69	179	192	203	213	224	233	235	235	234	232
68	171	183	194	204	214	223	225	225	224	222
67	164	175	186	195	205	213	215	215	214	212
66	156	167	177	186	196	204	206	205	205	202
65	149	160	169	178	187	195	196	196	195	193
64	142	153	162	169	178	186	187	187	186	184
63	136	145	154	162	170	177	179	178	178	176
62	130	138	147	154	162	169	170	170	169	168
61	123	132	140	147	155	161	163	162	161	160

Rarity 4. Incidence 3 per thousand. Just slightly more scarce than his cousin the 4 5 1. In considering the question of relative rarities of the different somatotypes it should be emphasized that in the distributions which we visualize the somatotype is represented only by a point in three-dimensional space—the center point in a space. No physique falls *exactly* at one of these points, although every physique must be near to one or more of them, and the point it is nearest to, or the two points between which it is nearly midway, will serve to name the somatotype. Now the 4 5 1 and the 5 4 1 lie equidistantly toward the mesomorphic and endomorphic poles, respectively, from a point on the ectomorphic coördinate which would be defined by the formula 4½ 4½ 1, and would represent a somatotype *balanced* at extreme ectopenia.

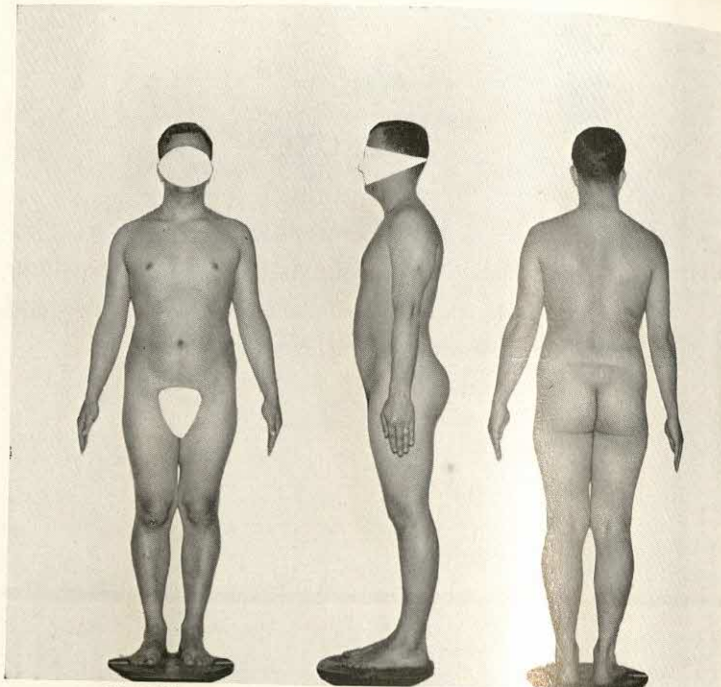
As the study of the somatotypes has progressed, the feeling has grown with all of us that nature is somehow favorably inclined toward balances, and perhaps especially toward the balance between the first and second components. The somatotype 4 5 1 - 5 4 1 (4½ 4½ 1) seems decidedly commoner than either the 4 5 1 or the 5 4 1. This may be delusory, but in practice a dead center 4 5 1 or 5 4 1 is an excessively rare thing to find, while the intermediate cases which *seem* to be just about halfway between the two are comparatively common.

When in doubt about what to do with a child who even remotely suggests a 5 4 1, take him to the nearest water. We are now in the territory of the swimmers, and there is an old frontier legend that oxen will swim where a bull will drown.

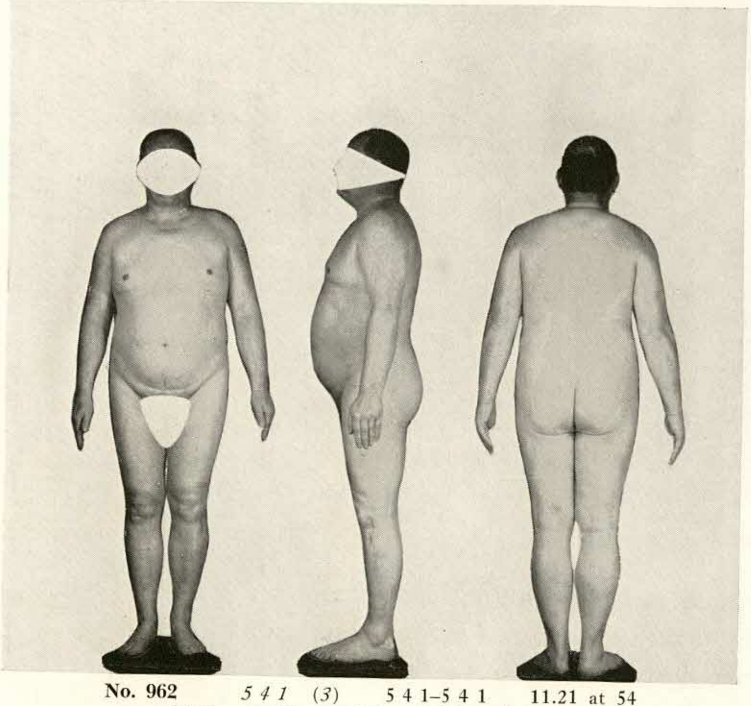


No. 960 *5 4 1* (*1*) 5 4 1–5 4 1 12.03 at 22
5½ 4 1, 5 4 1, 5 4 1, 5 4 1, 5 3 2

541

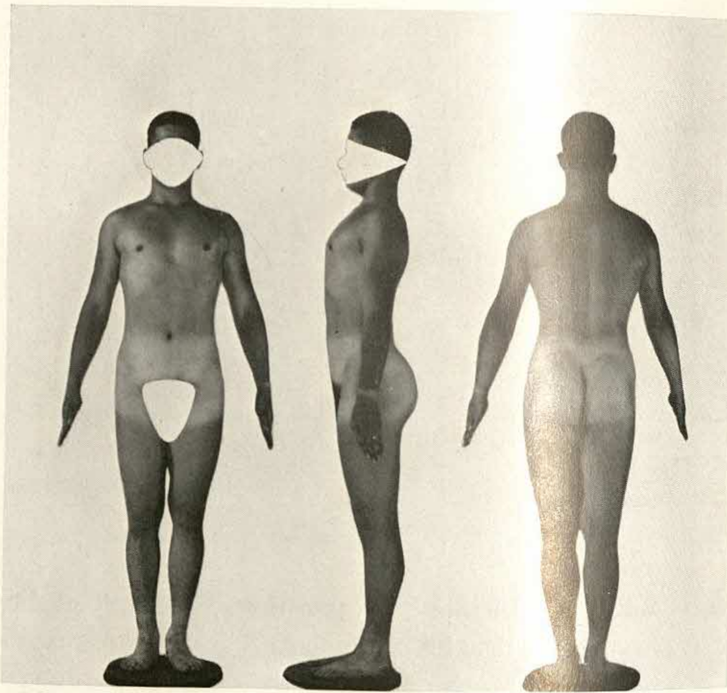


No. 961 *5 4 1* (*2*) 5 4 1–5 4 1 11.95 at 25
5 4 1, 5 4 1, 5 4 1½, 5 4 1, 5 4 1½

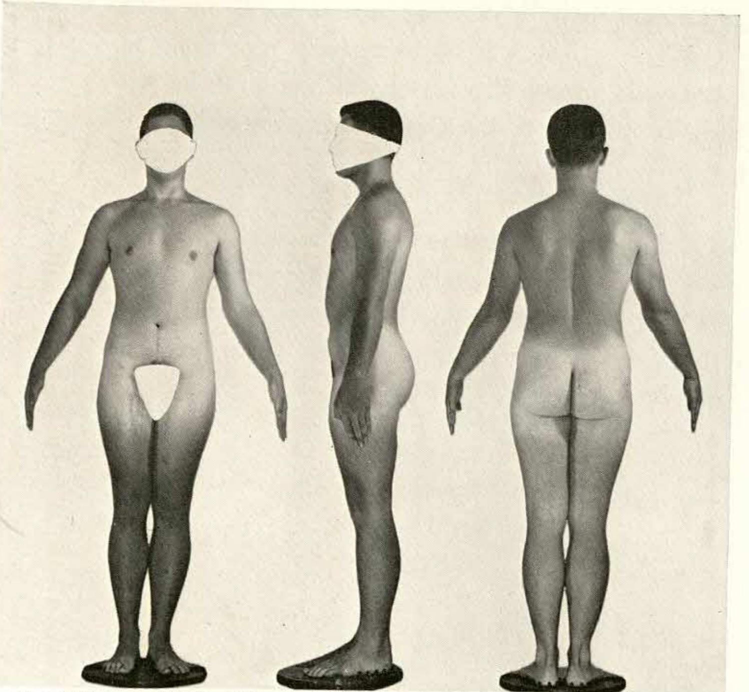


No. 962 *5 4 1* (*3*) 5 4 1–5 4 1 11.21 at 54
5 4 1, 5 4 1, 5 4 1, 5 4 1, 5 4 1½

541

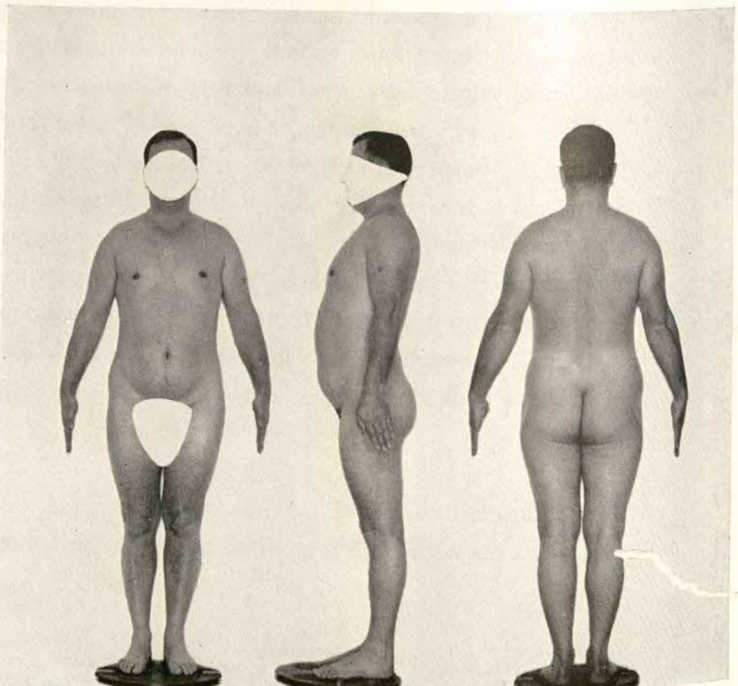


No. 963 *5 4 1* (*4*) 5 4 1–5 4 2 (5 4 1½) 12.39 at 17
5 4 1½, 5 4 1½, 5 4 1½, 5 3½ 2, 5 3½ 2

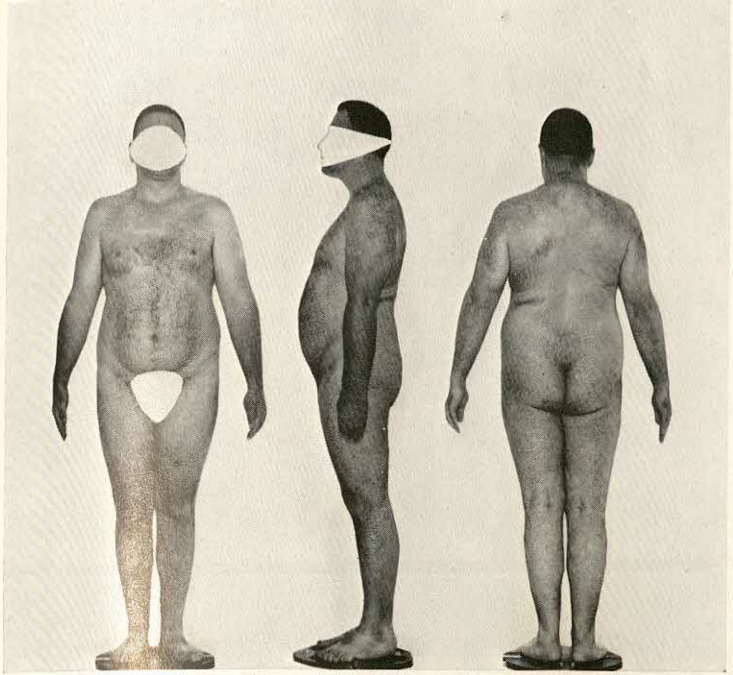


No. 964 *5 4 1* (*5*) 5 4 1–5 4 2 (5 4 1½) 12.35 at 19
5 4 1½, 5 4 1½, 5 4 1, 5 4 1½, 5 4 1½

541

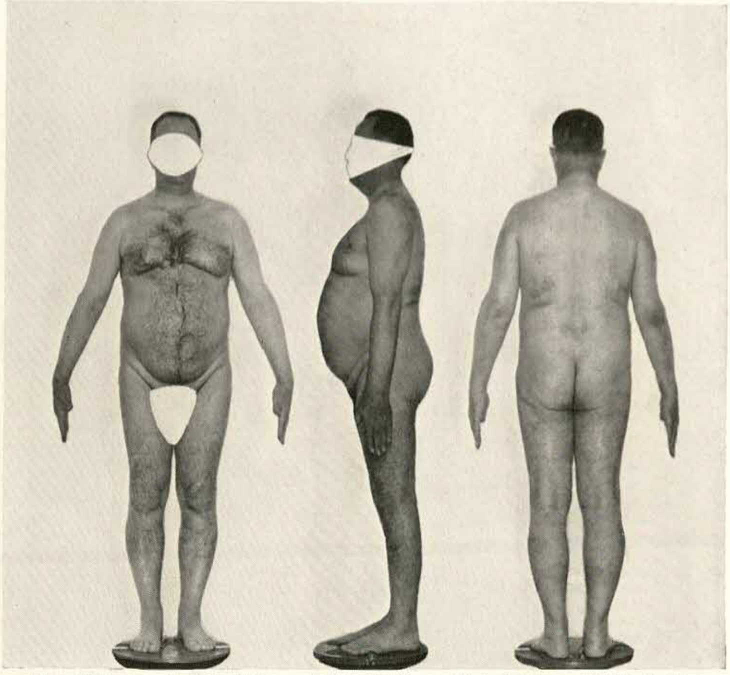


No. 965 *5 4 1* (*6*) 5 4 1–5 4 2 (5 4 1½) 11.66 at 34
5 4 1½, 5 4 1, 5 3½ 1½, 5 4 1, 5 4 1½

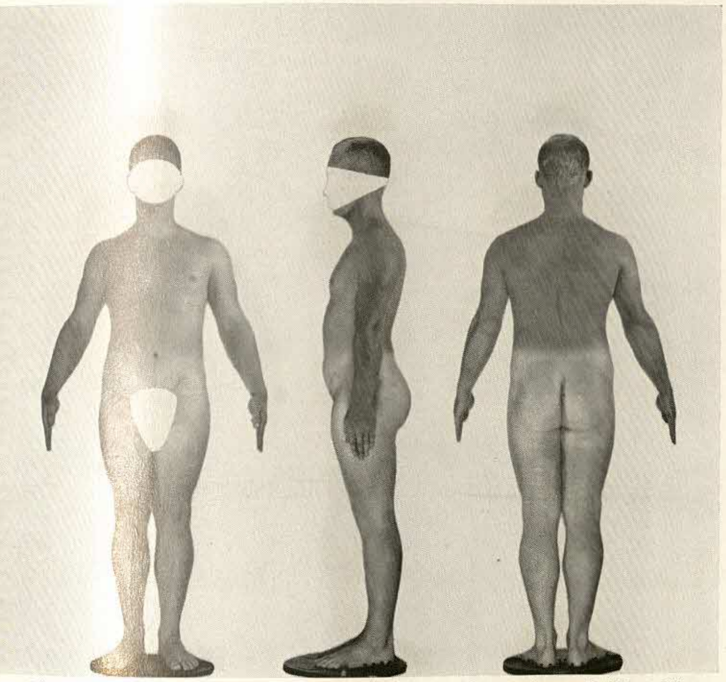


No. 966 *5 4 1* (*7*) 5 4 1–5 4 2 (5 4 1½) 11.34 at 43
5 4½ 1½, 5 3½ 2, 5 4 1, 5 3½ 1½, 5 3½ 1½

541

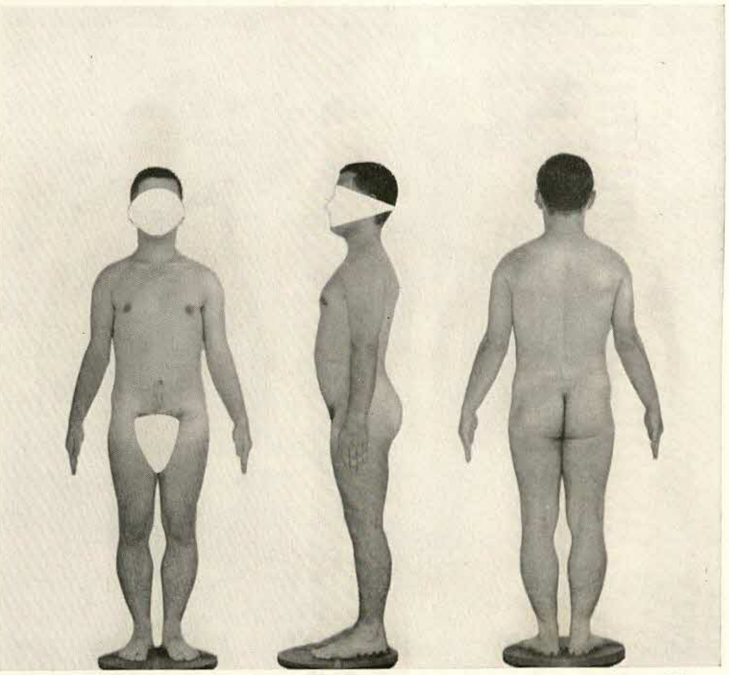


No. 967 *5 4 1* (*8*) 5 4 1–5 4 2 (5 4 1½) 11.37 at 63
4½ 4 1½, 5 3½ 1½, 5 3½ 1½, 5 4 1, 4½ 4 1½

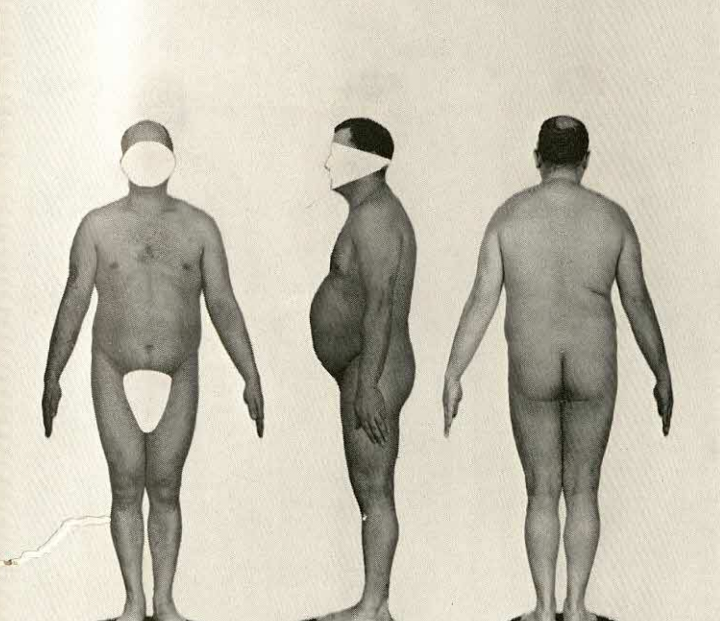


No. 968 *5 4 1* (*9*) 5 4 1–5 5 1 (5 4½ 1) 12.12 at 19
5 4 1½, 5 4½ 1, 5 4½ 1, 5 4 1, 5 4½ 1½

541

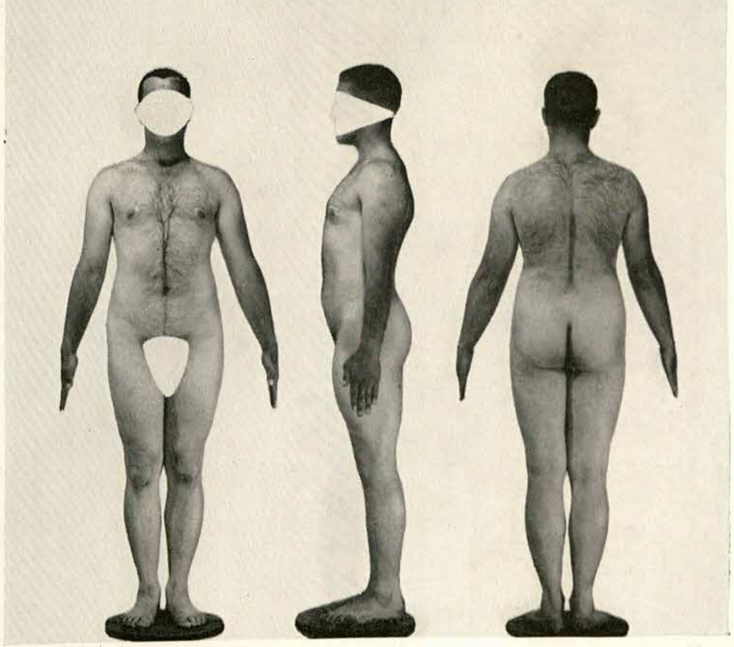


No. 969 *5 4 1* (*10*) 5 4 1–5 5 1 (5 4½ 1) 12.02 at 20
5 4½ 1, 5 4½ 1, 5 4½ 1, 5 4½ 1, 5 5 1

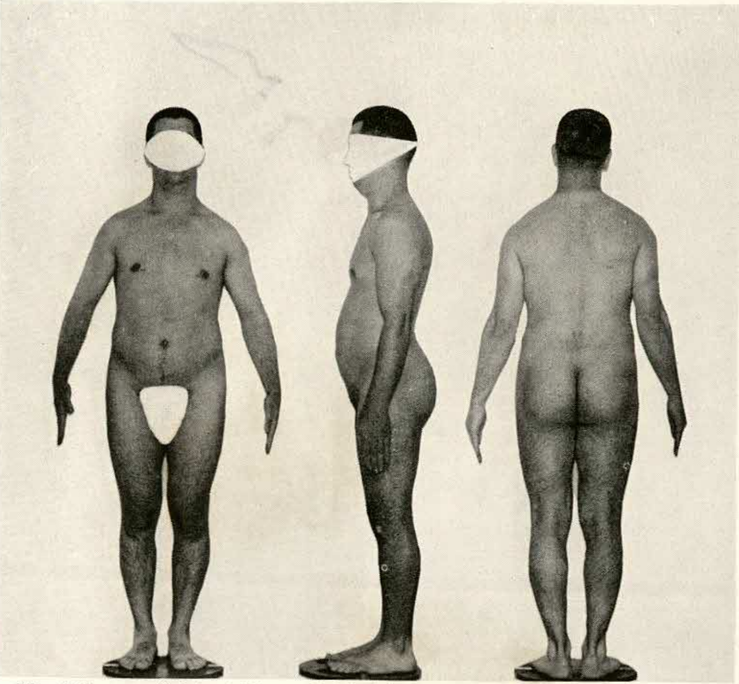


No. 970 *5 4 1* (*11*) 5 4 1–5 5 1 (5 4½ 1) 11.23 at 39
5 4½ 1, 5 4½ 1½, 5 4½ 1, 5½ 4 1, 5 4 1½

541

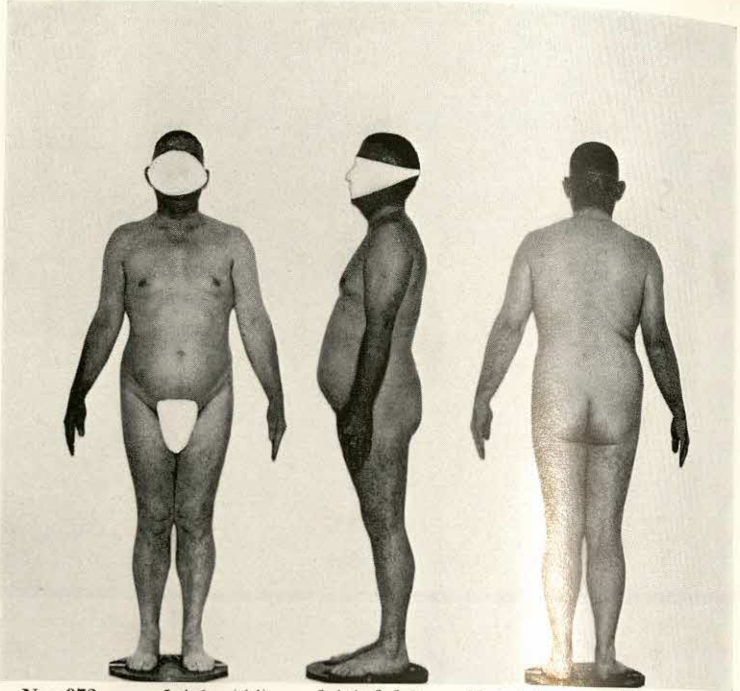


No. 971 *5 4 1* (*12*) 5 4 1–5 5 2 (5 4½ 1½) 12.15 at 20
5 4 1½, 5 4½ 1, 5 4 1½, 5 4½ 1½, 5 4½ 1½

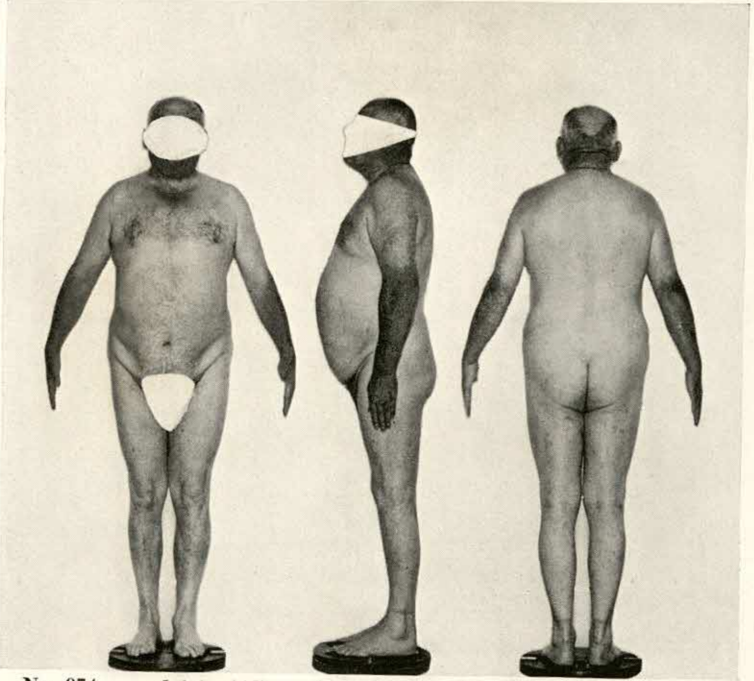


No. 972 *5 4 1* (*13*) 5 4 1–5 5 2 (5 4½ 1½) 11.66 at 30
5 4½ 1½, 4½ 4 1½, 5 4 2, 5 4½ 1½, 5 4½ 1½

541

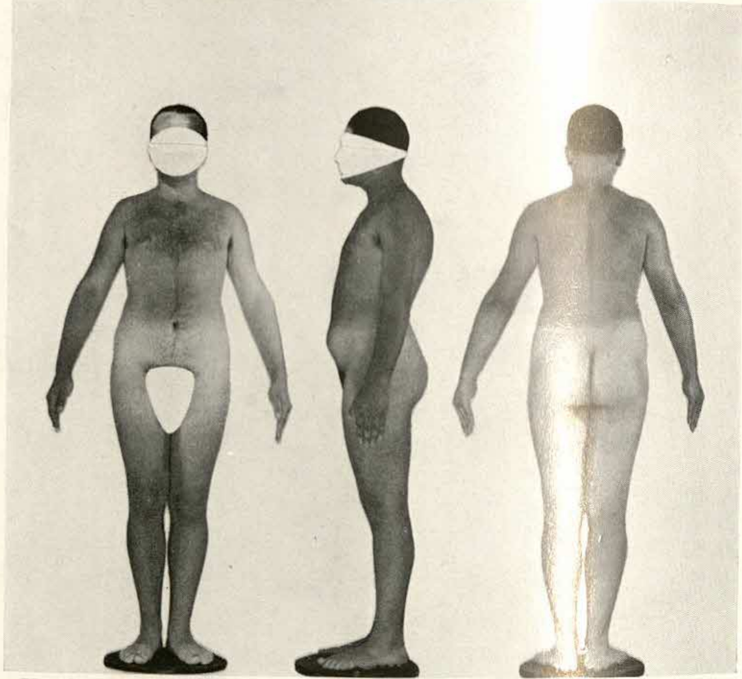


No. 973 *5 4 1* (*14*) 5 4 1–5 5 2 (5 4½ 1½) 11.16 at 49
5 4½ 1½, 5 4½ 1½, 5 4 1, 5 4 1½, 5 4½ 1½

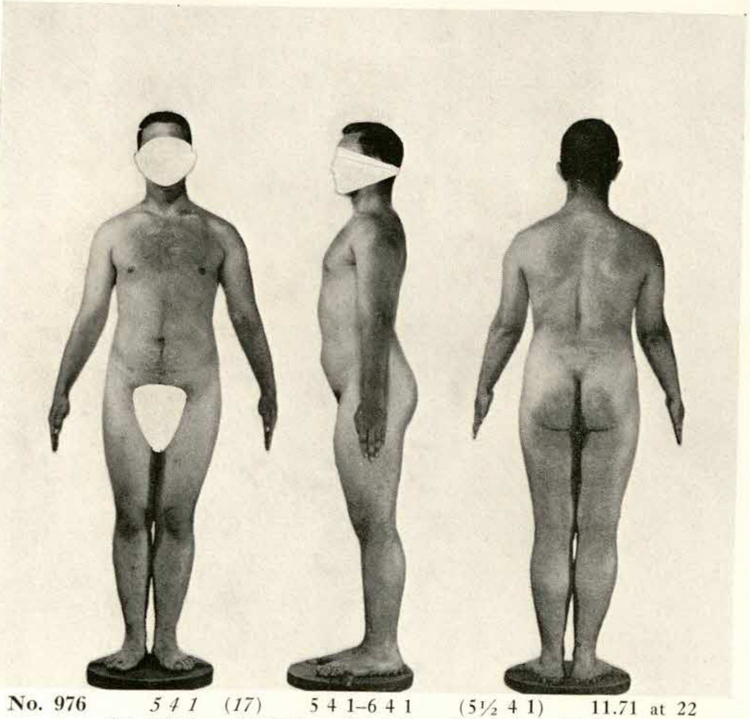


No. 974 *5 4 1* (*15*) 5 4 1–5 5 2 (5 4½ 1½) 11.28 at 60
5 5 1, 5 4½ 1, 5 4 1½, 5 4 1½, 4 4½ 2½

541

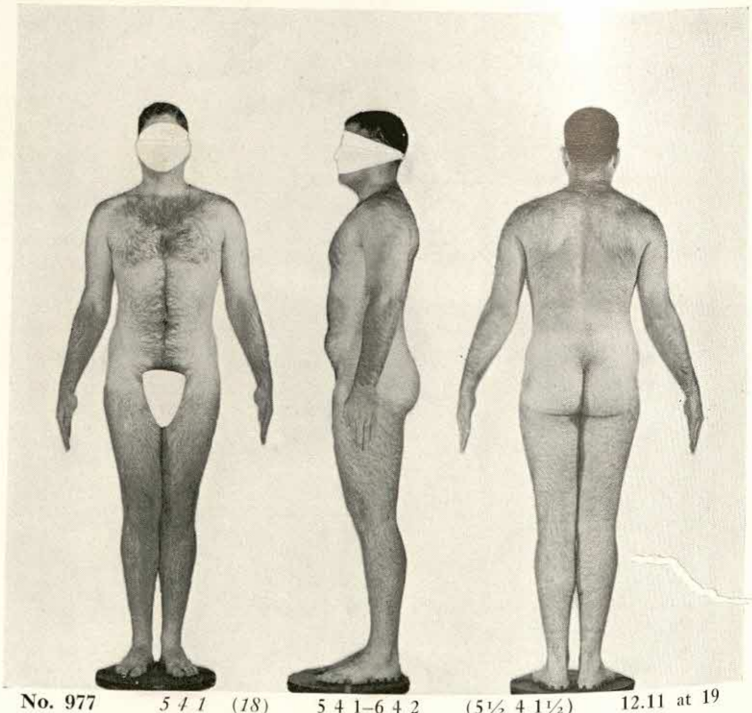


No. 975 *5 4 1* (*16*) 5 4 1–6 3 1 (5½ 3½ 1) 12.11 at 18
5½ 3½ 1, 5½ 3 1, 5½ 3 1½, 5½ 3½ 1, 5½ 3½ 1½

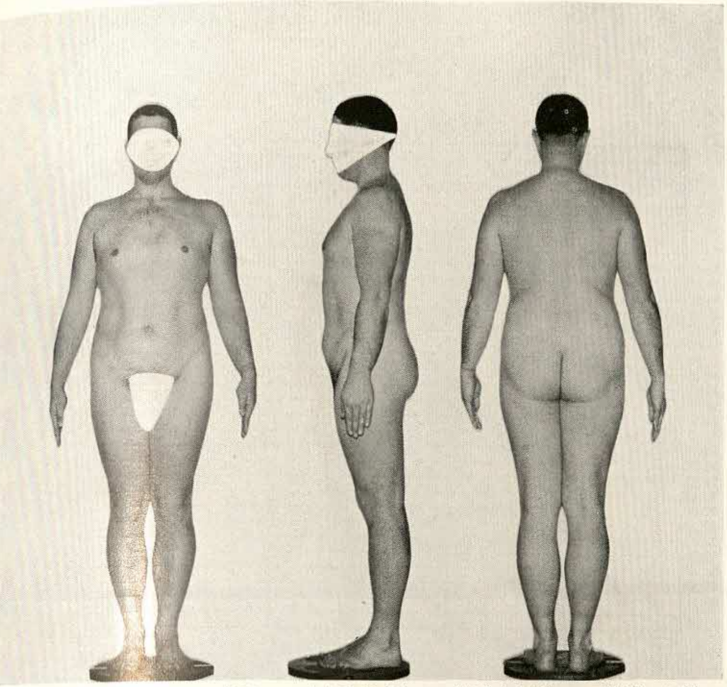


No. 976 *5 4 1* (*17*) 5 4 1–6 4 1 (5½ 4 1) 11.71 at 22
5½ 4 1½, 5 4½ 1, 5½ 4 1, 5½ 4 1, 6 4 1

541

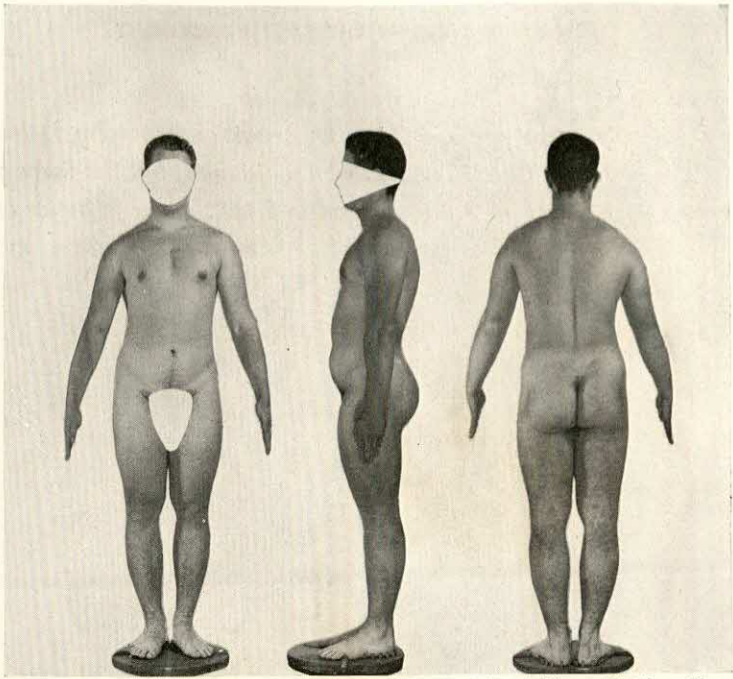


No. 977 *5 4 1* (*18*) 5 4 1–6 4 2 (5½ 4 1½) 12.11 at 19
5½ 4½ 1, 5½ 4 1½, 5½ 4 1½, 5½ 4 2, 5½ 4 2

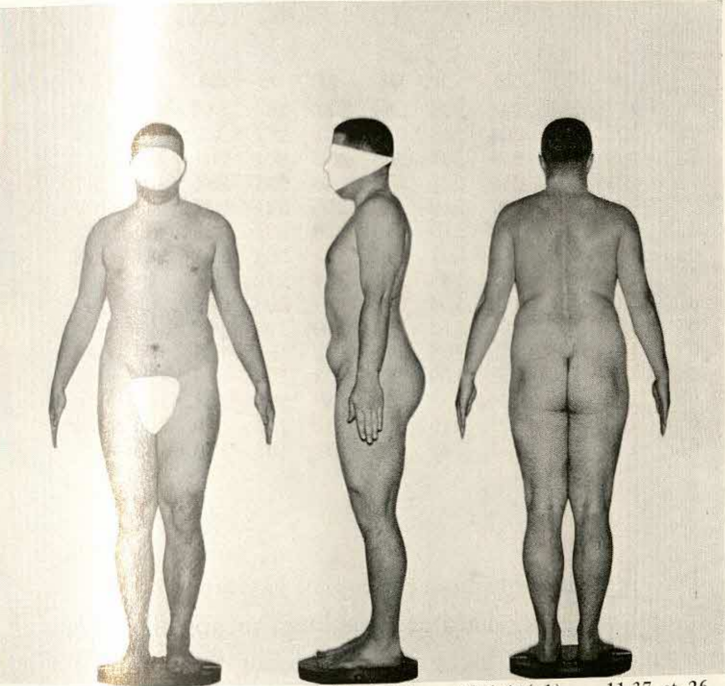


No. 978 *5 4 1* (*19*) 5 4 1–6 4 2 (5½ 4 1½) 11.50 at 30
5½ 3½ 2, 5½ 4 1½, 5½ 4 1½, 5½ 4 1½, 5 4½ 1½

541

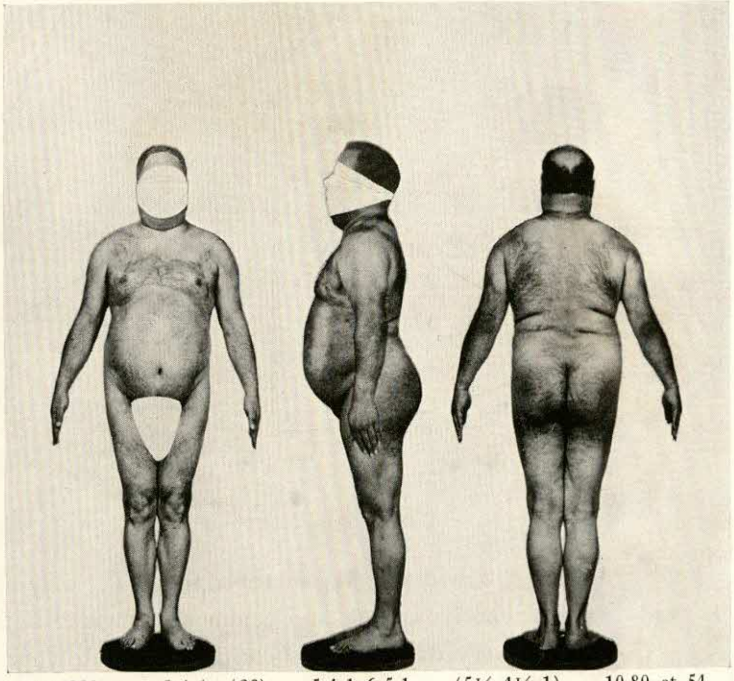


No. 979 *5 4 1* (*20*) 5 4 1–6 5 1 (5½ 4½ 1) 11.85 at 18
5½ 4½ 1, 5 4½ 1, 5½ 4½ 1, 5 4½ 1, 5½ 4 1

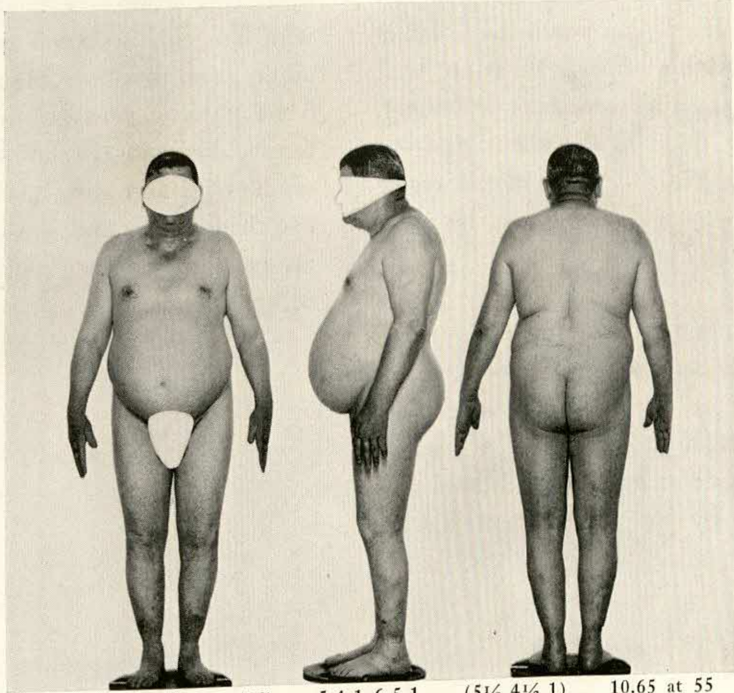


No. 980 *5 4 1* (*21*) 5 4 1–6 5 1 (5½ 4½ 1) 11.37 at 26
5½ 4½ 1½, 5½ 4 1, 5½ 4½ 1, 5½ 4 1½, 5½ 5 1

541

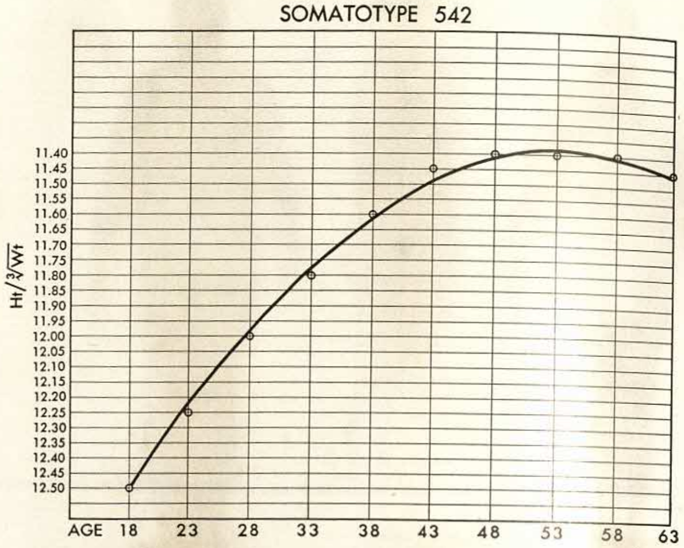


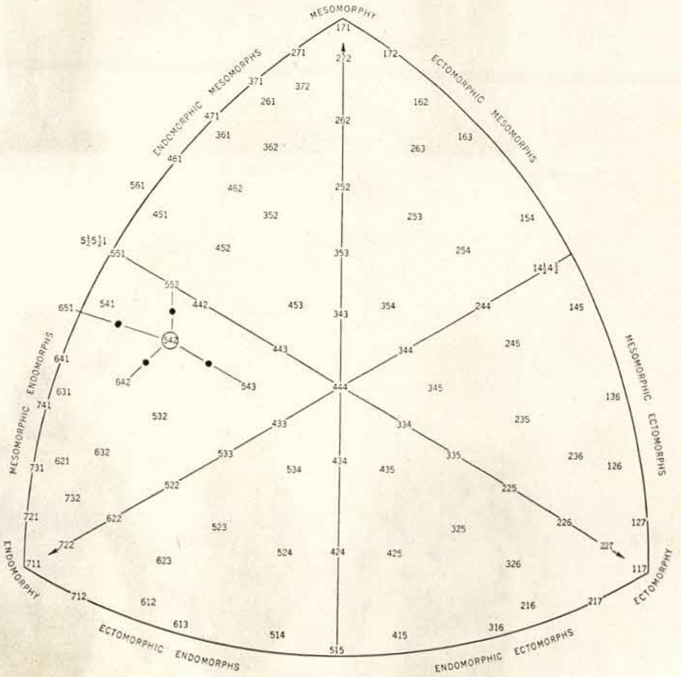
No. 981 *5 4 1* (*22*) 5 4 1–6 5 1 (5½ 4½ 1) 10.80 at 54
6 4½ 1, 5½ 4½ 1, 5½ 4 1, 5½ 4½ 1, 5½ 4 2



No. 982 *5 4 1* (*23*) 5 4 1–6 5 1 (5½ 4½ 1) 10.65 at 55
5½ 4½ 1, 5½ 4 1½, 5 4 1½, 6 4½ 1, 5 4½ 1

Somatotype 5 4 2 *(Mesomorphic endomorphy, 11-level.) Hereford ox. The common white-face, but the fierce procreative fires are damped and for that he is better company—unless you happen to be in a procreative mood. Nos. 983–998.*



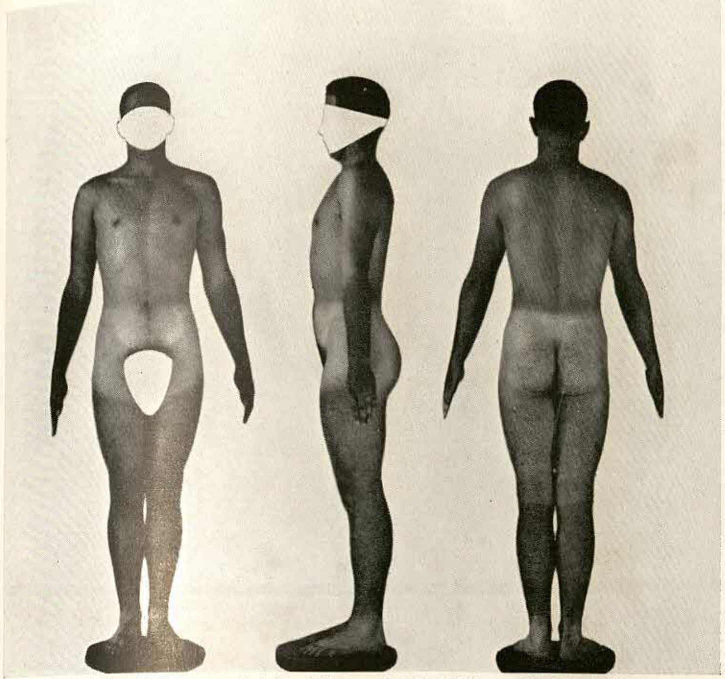


Weight for Age and Height

Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	217	231	244	258	269	277	284	284	283	280
74	208	222	234	248	259	267	272	272	272	269
73	199	212	224	237	248	256	261	261	260	257
72	191	204	215	227	238	246	251	251	250	247
71	184	196	207	219	229	236	241	241	240	237
70	177	188	198	210	219	226	231	231	230	227
69	169	180	190	202	210	217	222	222	221	218
68	162	172	182	193	201	208	212	212	212	209
67	155	165	174	184	192	199	203	203	202	200
66	148	157	166	176	183	190	194	194	193	191
65	141	150	159	168	175	182	185	185	184	182
64	134	143	151	160	167	173	176	176	176	174
63	128	137	144	153	159	165	168	168	168	166
62	122	130	137	146	152	158	160	160	160	158
61	116	124	131	139	145	150	153	153	153	151

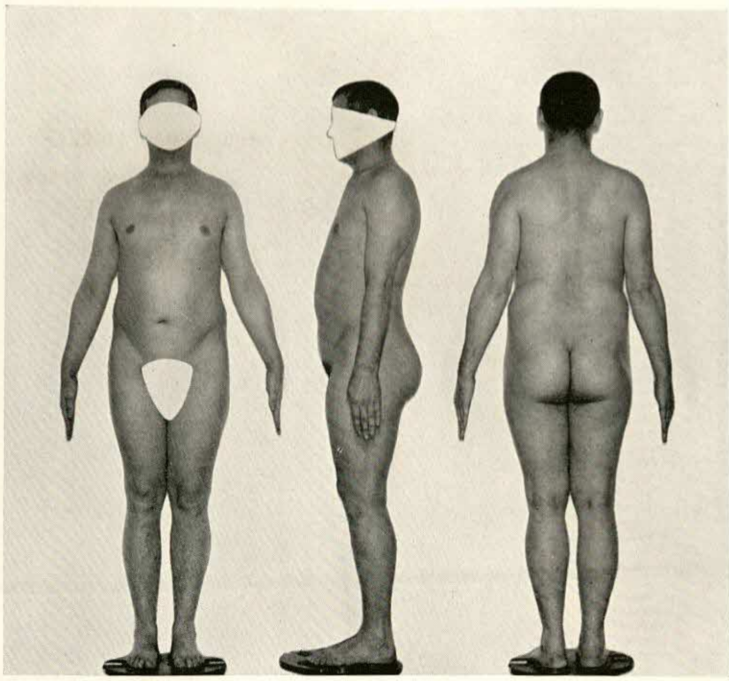
Rarity 1. Incidence 31 per thousand. The only endomorph who is rarity 1, and common enough to be seen almost every day. There is one in your club, your fraternity, your firm, and there are probably half a dozen in your college class. The chances are three in a hundred that there is one in your shoes. As a youth the 5 4 2 is often the jolly ox that tradition implies. He is not well adapted to fighting, or to any athletics except swimming, and he is inclined to be quite happy about that—to "make a good adjustment." With the predominant endomorphy he is likely to be lazy, and if he eats as his average contemporary eats he will be called fat.

But the 5 4 2 is by no means always the easygoing sort of chub that he can so readily become. Among any dozen 5 4 2's there will be a few, possibly half of them, who have ambition and "drive." For reasons which will vary greatly in different individuals, and will be somewhat conditioned by past events, some 5 4 2's will emerge strivingly from the role of easygoing adaptation, and will work hard at something, meanwhile perhaps holding their weight at a level below the norm for the somatotype. The 5 4 2 then has a natural advantage over many of the contemporaries who will be competing with him on his chosen ground. Being low in fighting ability, and born to be athletically incompetent, the 5 4 2 gives no hostages to these "normal masculine interests." He tends thus to be nondistractible. His energies are his own, and his achievement has a better-than-average chance to be one-directional. Certainly many 5 4 2's are good businessmen and get rich. Also they make excellent doctors.

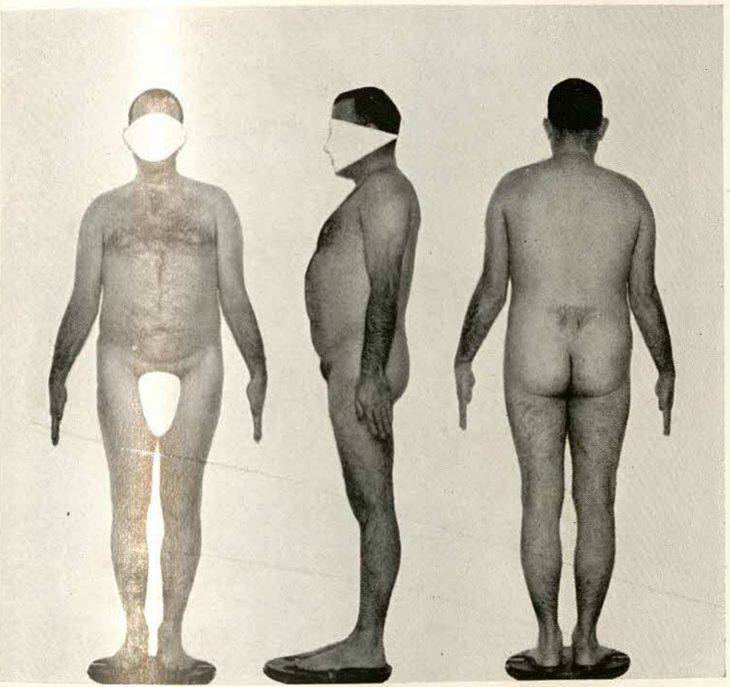


No. 983 *5 4 2* *(1)* 5 4 2–5 4 2 12.47 at 19
5 3½ 2, 5 4 2, 5 4 2, 5 4 2½, 5 4 2

542

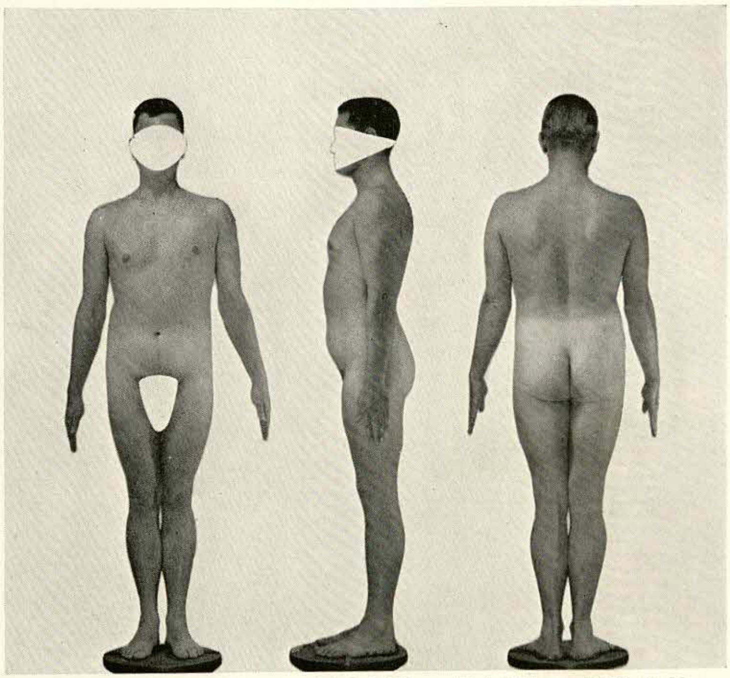


No. 984 *5 4 2* *(2)* 5 4 2–5 4 2 11.61 at 37
5 4½ 2, 5 3 2½, 5 3½ 2½, 5 4 2, 5½ 4 2

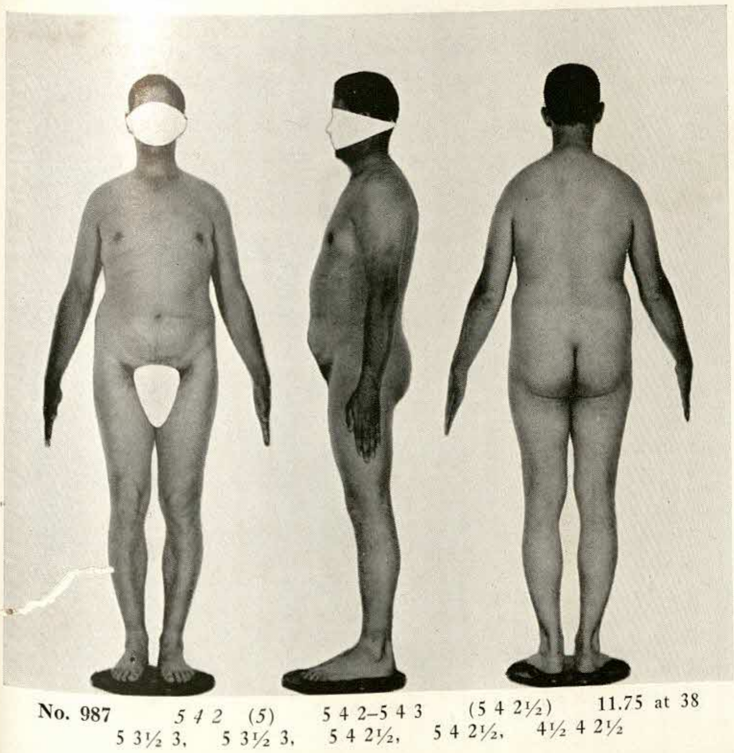


No. 985 *5 4 2* *(3)* 5 4 2–5 4 2 11.46 at 44
5 3½ 2, 5 4 2, 5 3½ 2, 5 4 2, 4½ 4 2½

542

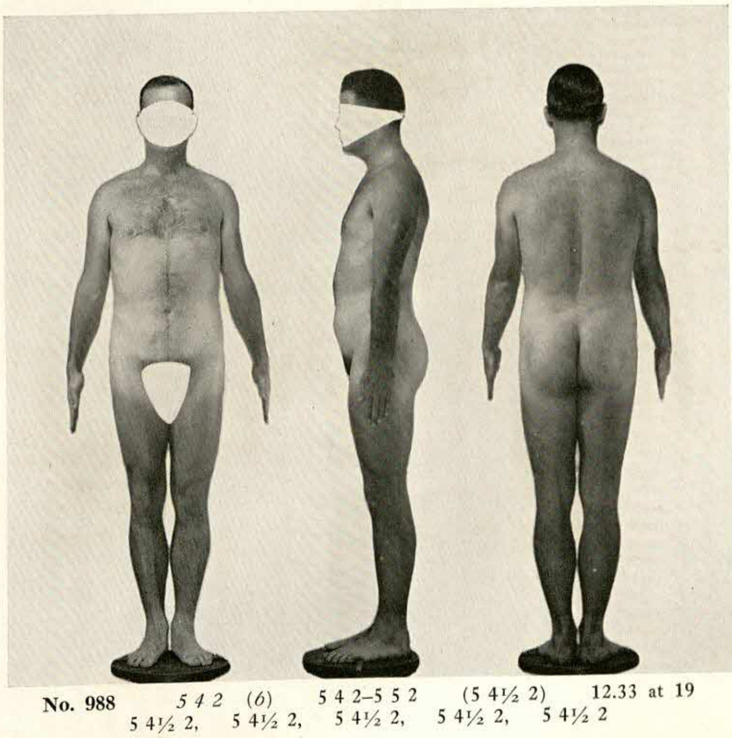


No. 986 *5 4 2* *(4)* 5 4 2–5 4 3 (5 4 2½) 12.35 at 22
5 4 3, 5 4 2½, 5 4 2½, 5 3½ 2½, 5 3½ 2½

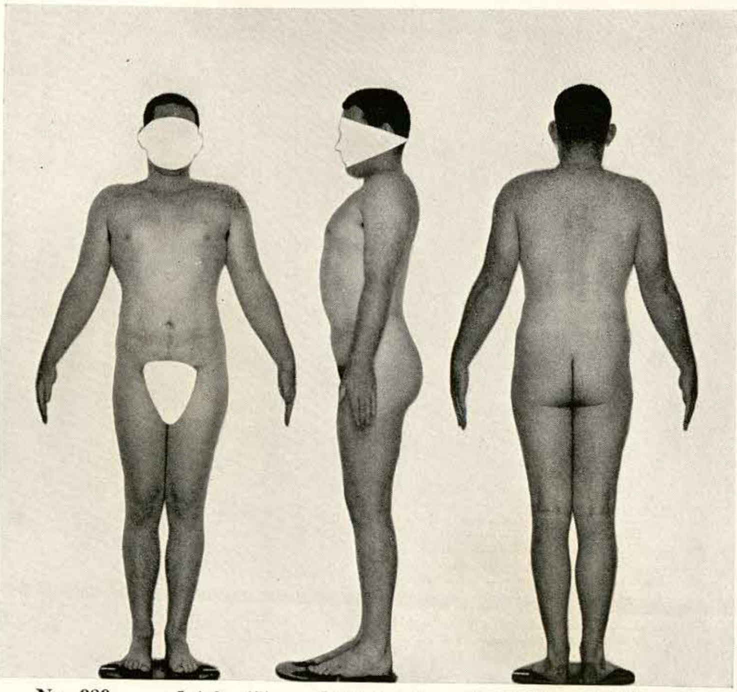


No. 987 *5 4 2* *(5)* 5 4 2–5 4 3 (5 4 2½) 11.75 at 38
5 3½ 3, 5 3½ 3, 5 4 2½, 5 4 2½, 4½ 4 2½

542

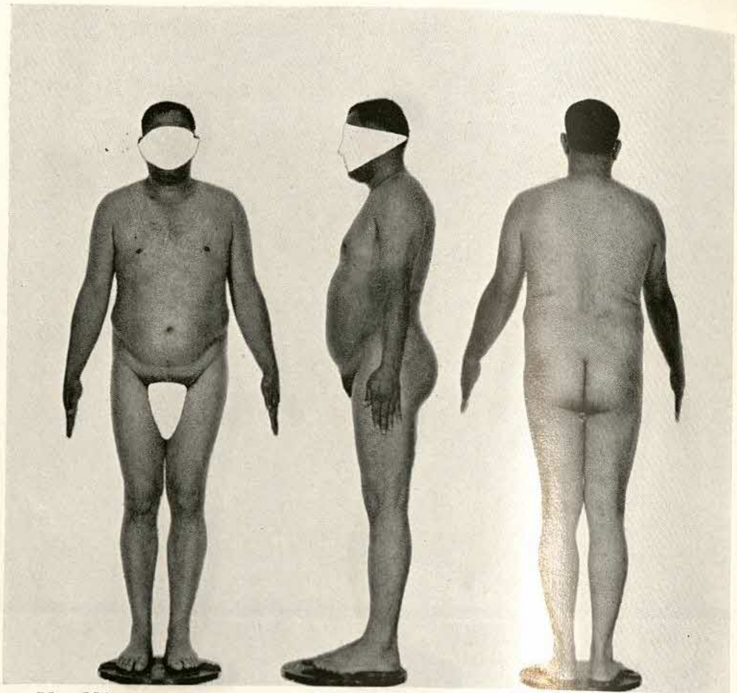


No. 988 *5 4 2* *(6)* 5 4 2–5 5 2 (5 4½ 2) 12.33 at 19
5 4½ 2, 5 4½ 2, 5 4½ 2, 5 4½ 2, 5 4½ 2

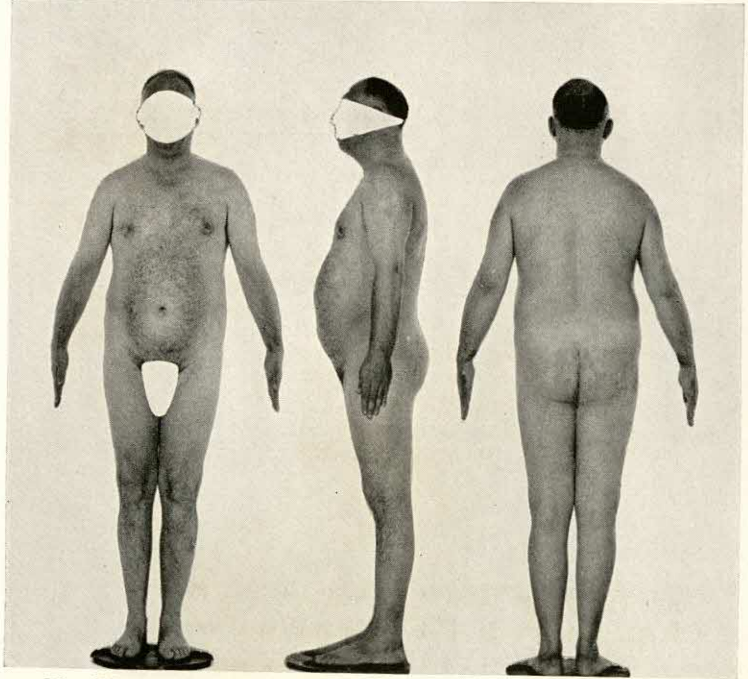


No. 989 *5 4 2* (*7*) 5 4 2–5 5 2 (5 4½ 2) 11.98 at 25
5 4½ 2, 5 5 2, 5 4½ 2, 5 4½ 2, 5½ 4 2

542

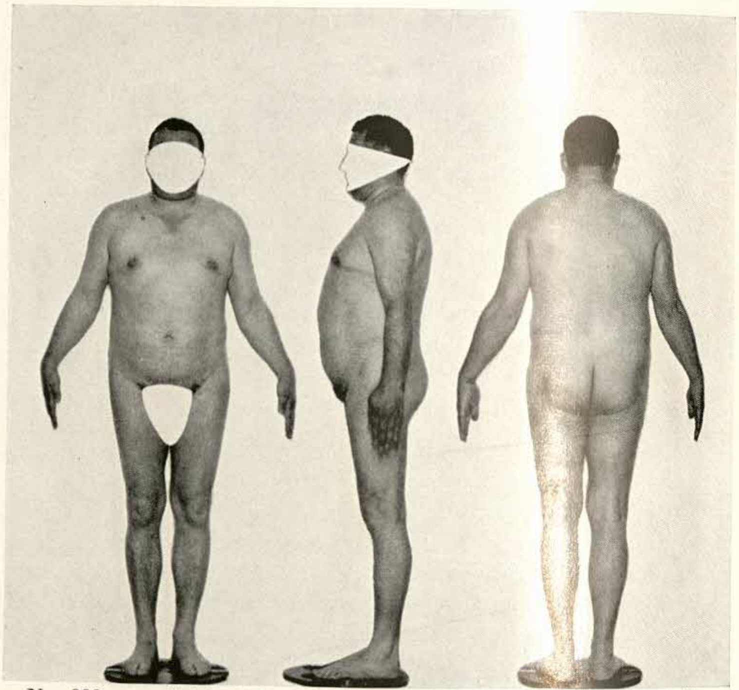


No. 990 *5 4 2* (*8*) 5 4 2–5 5 2 (5 4½ 2) 11.54 at 37
5 4½ 2, 5 4½ 2, 5 4 2, 5 4½ 2, 5 4½ 2½

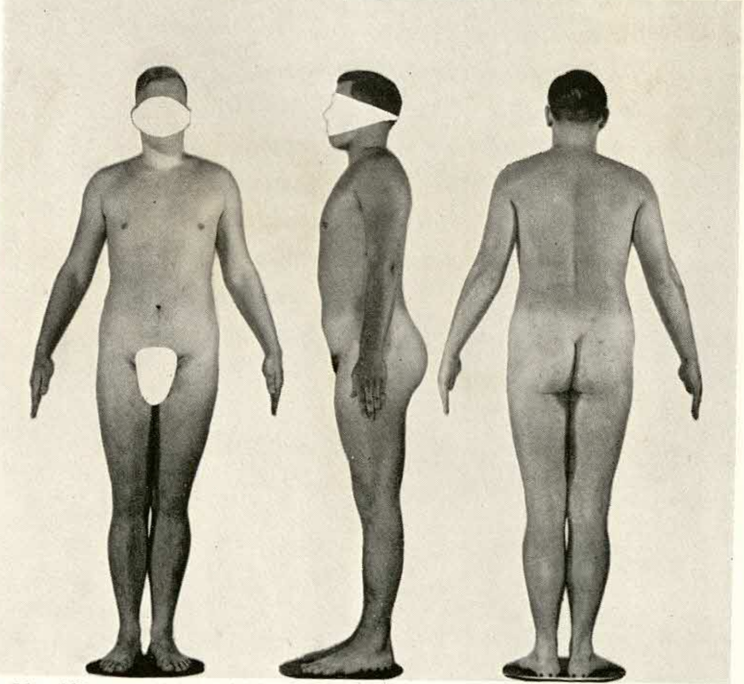


No. 991 *5 4 2* (*9*) 5 4 2–5 5 2 (5 4½ 2) 11.45 at 40
5 5 2, 5 4½ 2, 5 4½ 1, 5 5 2, 5 4½ 2

542

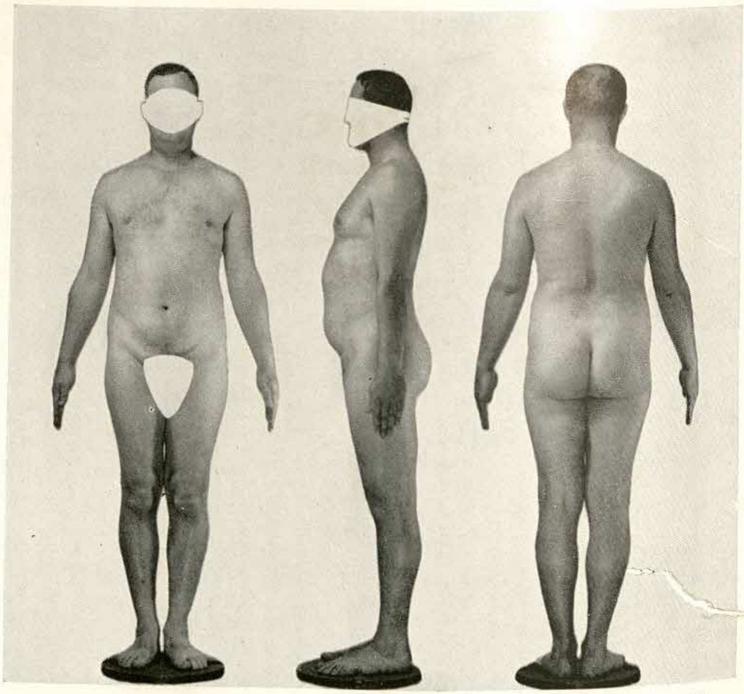


No. 992 *5 4 2* (*10*) 5 4 2–5 5 2 (5 4½ 2) 11.42 at 40
5 5 1, 5 4½ 1½, 5 4½ 1½, 5½ 4 2, 4 4½ 3



No. 993 *5 4 2* (*11*) 5 4 2–6 4 2 (5½ 4 2) 12.19 at 19
5½ 4 2, 5½ 4 1½, 5 4½ 1½, 5½ 4 2, 5½ 4 2

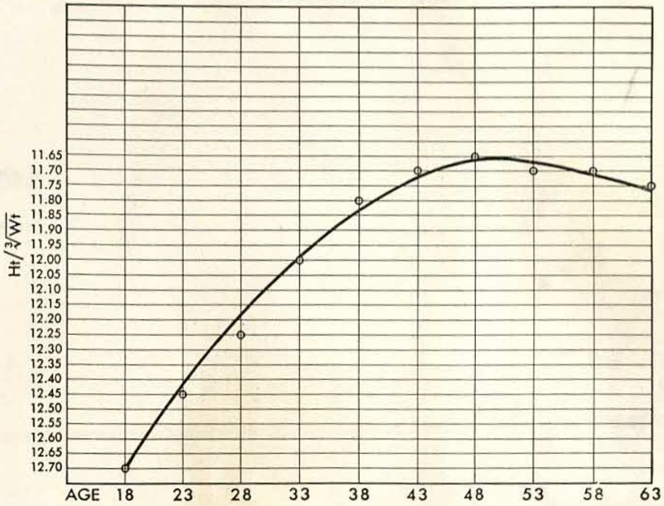
542



No. 994 *5 4 2* (*12*) 5 4 2–6 4 2 (5½ 4 2) 11.75 at 27
5½ 4 2, 5 4½ 2, 5 4½ 2, 5½ 4 2, 5½ 4 2

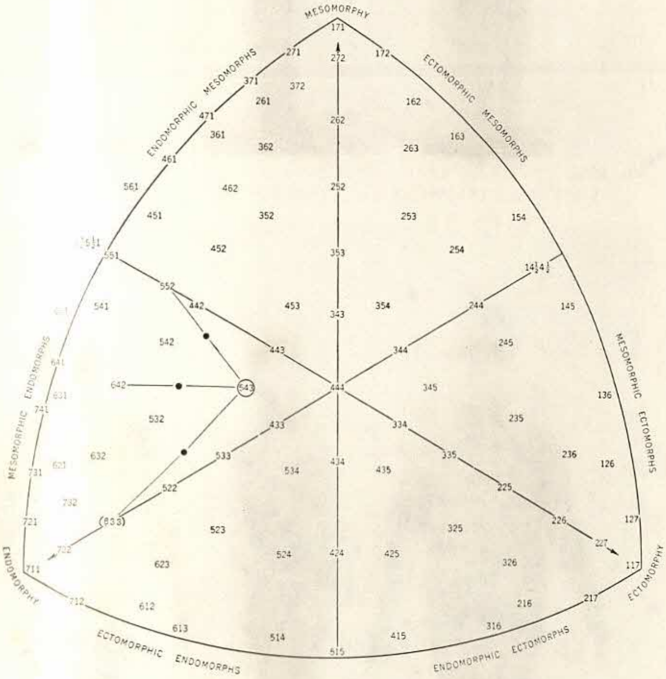
Somatotype 5 4 3 *(Mesomorphic endomorphy, 12-level.) The more ectomorphic oxen. Jerseys. Holsteins. Texas longhorns. Heavy, stolid, but longer legged, less compact bovinity. Nos. 999–1005.*

SOMATOTYPE 543



Weight for Age and Height

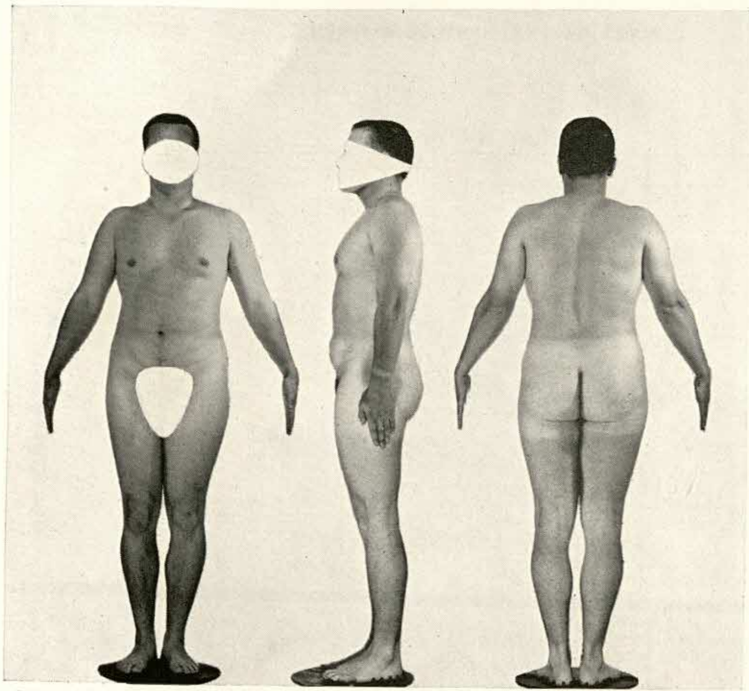
Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	206	218	229	243	255	261	266	263	261	259
74	198	209	220	233	245	251	255	252	251	249
73	190	201	212	224	235	241	245	242	241	239
72	183	193	204	215	226	232	235	233	232	230
71	176	185	195	207	217	223	226	224	223	221
70	168	178	187	198	208	214	217	215	214	212
69	161	170	180	190	200	205	208	206	205	203
68	154	163	172	182	191	196	199	197	196	194
67	147	156	164	174	182	187	190	188	187	186
66	140	149	157	166	174	179	181	180	179	177
65	134	142	150	159	166	171	173	172	171	169
64	128	135	143	151	159	163	165	164	163	162
63	122	129	136	144	151	156	157	157	156	154
62	117	123	130	137	144	148	150	149	148	147
61	111	117	124	131	137	141	143	142	141	140



Rarity 2. Incidence 17 per thousand. The three somatotypes of the family of the oxen make up just about 5 per cent of the male population, as compared with the 8 per cent that are included among their three mesomorphic permutants who constitute the family of the bulls. But the oxen are a more conspicuous family for students of somatotyping. They are much easier to recognize as they move about in the ordinary channels of social life. The endomorphic mesomorphs blend inconspicuously with the average run of the population. They pass and are lost in the crowd. But *all* of the endomorphs stand out as different, just as the softer and juicier oxen stand out in the restlessly milling herd.

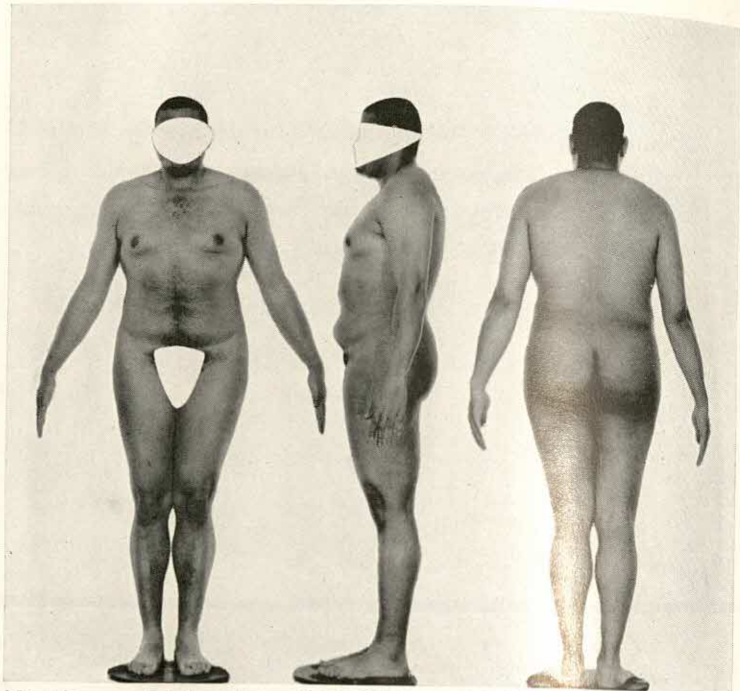
This family of somatotypes presents a series of steep nutrition curves. All three reach peak weight in the late forties, the 5 4 1 and the 5 4 3 beginning to fall back again almost immediately. The 5 4 2 tends to hold his peak weight for at least a decade, and we find him only beginning to jettison in the early sixties. In this instance again it is the somatotype at the 11-level that seems to be the most vigorous or longest lived of the family, and this despite the fact that it is the 5 4 3 which is the more nearly balanced in the second and third components—another factor that (in the endopenic somatotype families) seems positively correlated with long life.

All of the 12-level somatotypes which present 3 or more in ectomorphy are inclined to be dysplastic. The 5 4 3 (and his permutant the 4 5 3) are frequently seen with very massive bodies and long, ectomorphic legs. In the case of the 5 4 3 this dysplasia can reach almost the proportions of caricature, so that in middle age the man may suggest a huge watermelon on stilts.

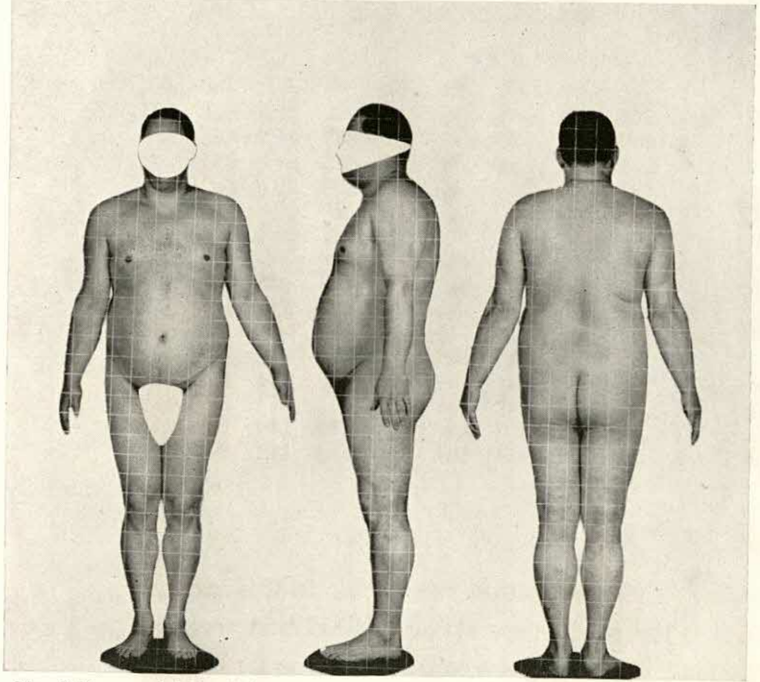


No. 995 *5 4 2* (*13*) 5 4 2–6 5 1 (5½ 4½ 1½) 11.99 at 18
5½ 4½ 1½, 5½ 4½ 1, 5½ 4½ 1½, 5½ 4½ 1½, 5½ 4½ 1½

542

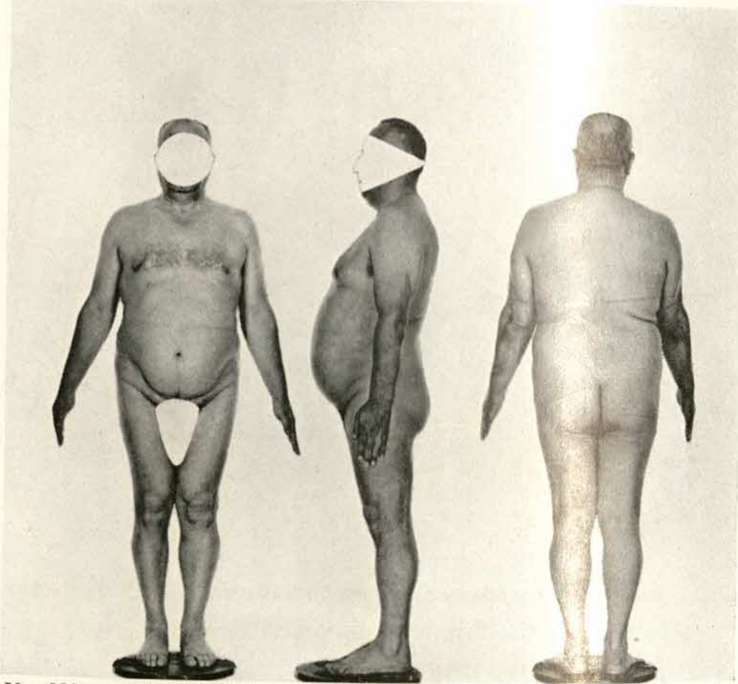


No. 996 *5 4 2* (*14*) 5 4 2–6 5 1 (5½ 4½ 1½) 11.44 at 28
5 4½ 1½, 5½ 4½ 1½, 5½ 4 2, 5½ 4½ 1½, 5½ 5 1½

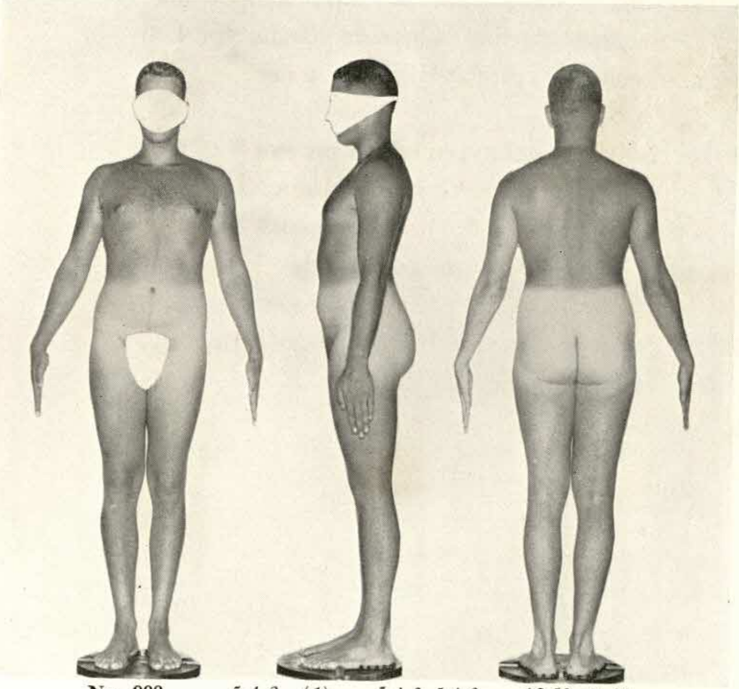


No. 997 *5 4 2* (*15*) 5 4 2–6 5 1 (5½ 4½ 1½) 10.90 at 40
5½ 4½ 1, 5½ 4½ 1½, 5½ 4½ 1, 5½ 4 1½, 5½ 4½ 1½

542

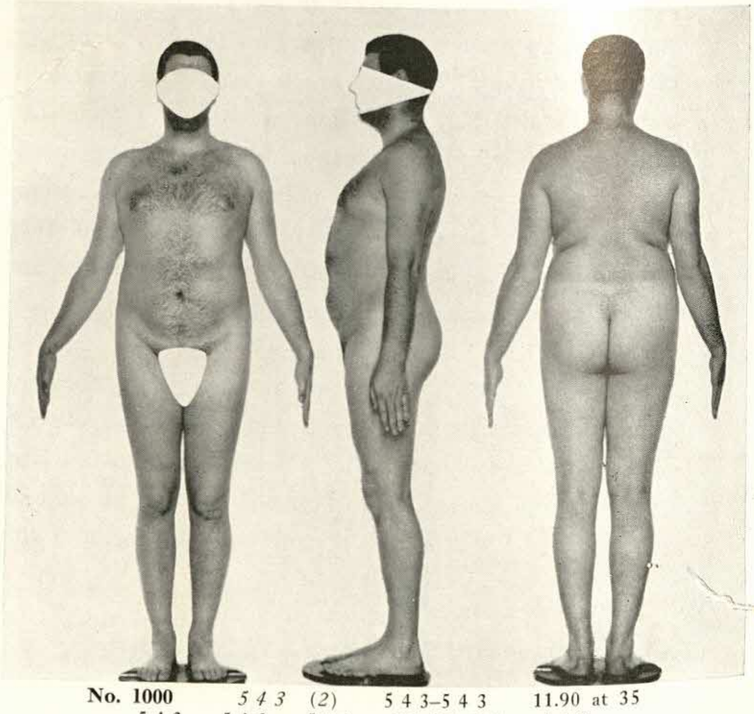


No. 998 *5 4 2* (*16*) 5 4 2–6 5 1 (5½ 4½ 1½) 10.94 at 58
5½ 4 1½, 5½ 4 1½, 5 4 1½, 5½ 4½ 1½, 5 5 1½

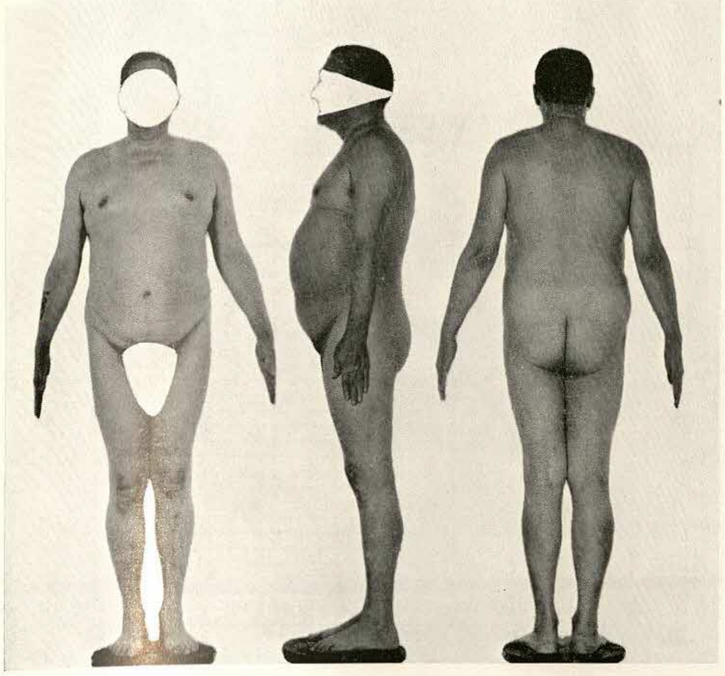


No. 999 *5 4 3* (*1*) 5 4 3–5 4 3 12.50 at 21
4½ 3½ 3½, 5 4 3, 5 4 3, 5 4 3, 4½ 4 3½

543

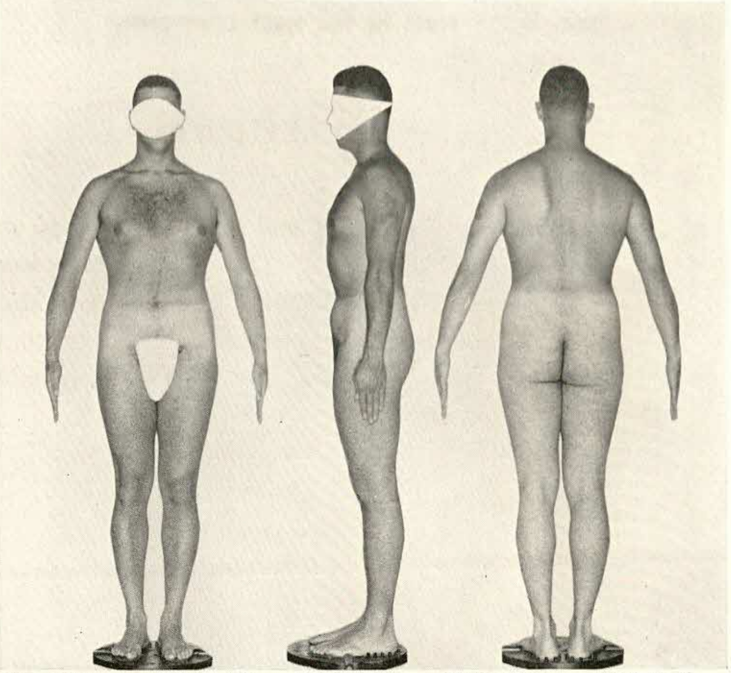


No. 1000 *5 4 3* (*2*) 5 4 3–5 4 3 11.90 at 35
5 4 3, 5 4 3, 5 4 3, 5½ 3½ 2½, 5 4 3

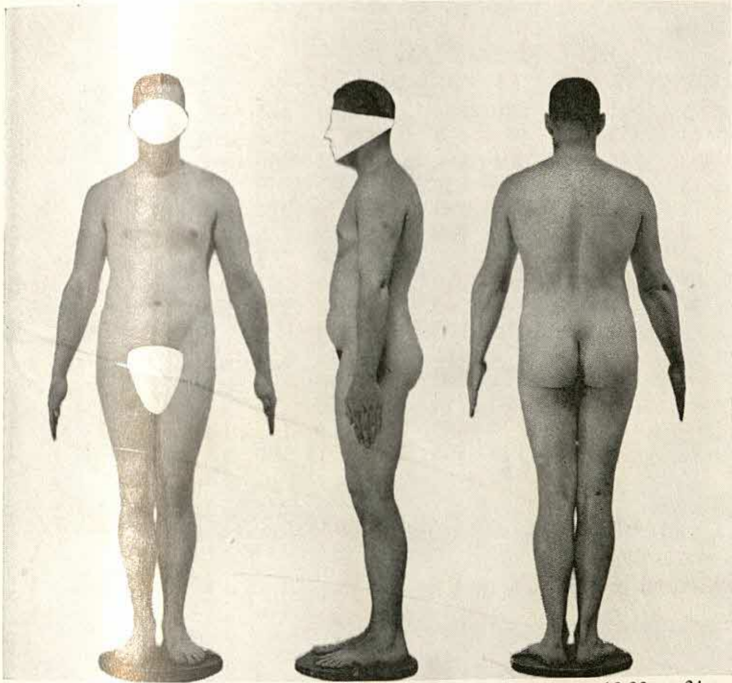


No. 1001 *5 4 3* (*3*) 5 4 3–5 4 3 11.66 at 55
5 4 2½, 5 4 2½, 5 3 3½, 5 4 3, 4½ 4 3

543

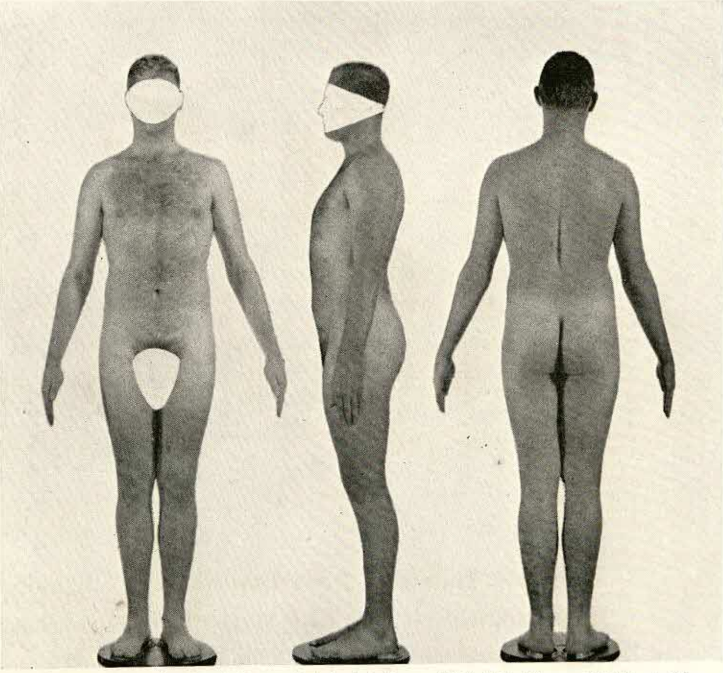


No. 1002 *5 4 3* (*4*) 5 4 3–5 5 2 (5 4½ 2½) 12.45 at 19
4½ 4 2½, 5 4½ 2½, 4½ 4 3, 5 4 2½, 5 4½ 2½

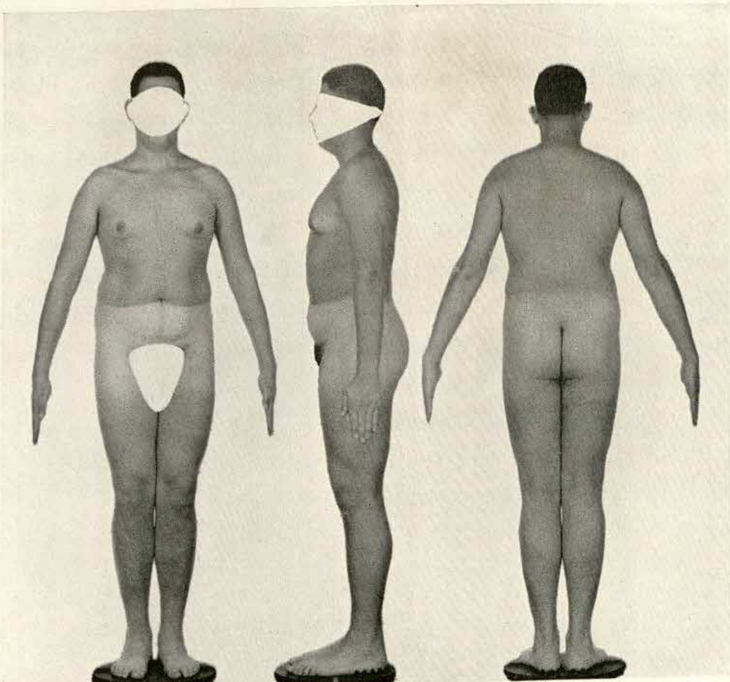


No. 1003 *5 4 3* (*5*) 5 4 3–5 5 2 (5 4½ 2½) 12.22 at 24
5 4½ 2½, 5 4½ 2, 5 4 2½, 5 4 2, 5 4½ 2½

543



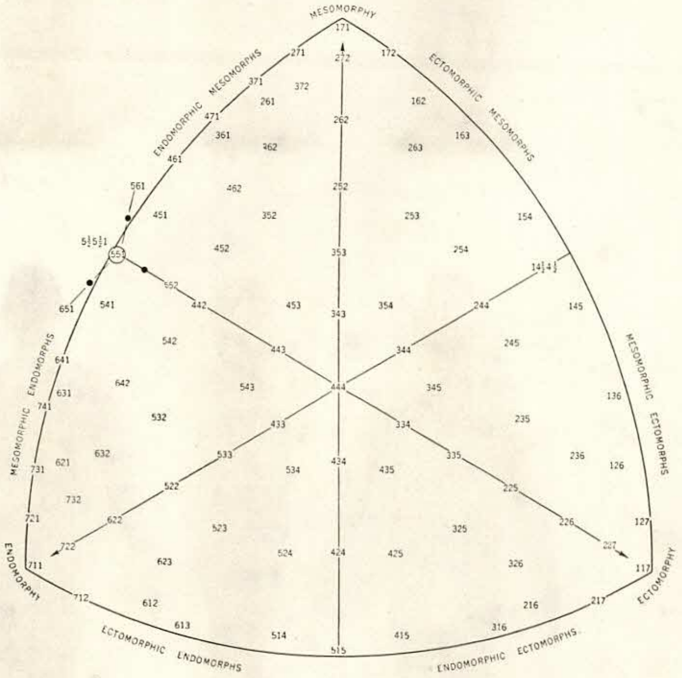
No. 1004 *5 4 3* (*6*) 5 4 3–6 3 3 (5½ 3½ 3) 12.52 at 19
5½ 3½ 3, 5½ 3½ 3, 5½ 3½ 3, 5½ 3½ 3, 5½ 3½ 3

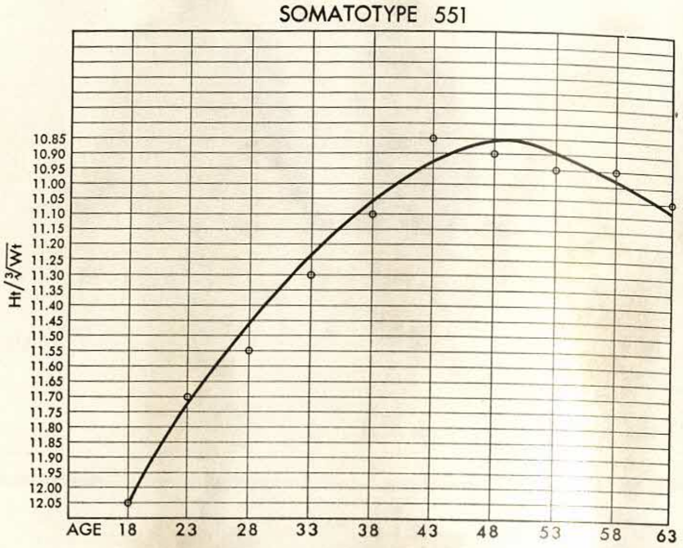


No. 1005 *5 4 3* (7) 5 4 3–6 4 2 (5½ 4 2½) 12.28 at 19
5½ 4 2½, 5½ 4 2½, 5½ 3½ 3, 5½ 3½ 2½, 6 4 2

33. ELEPHANTS

Somatotype 5 5 1 *(An endomorph-mesomorph at extreme ectopenia, 11-level.) The rhinoceros elephant, or more properly,* moeritherium *of Oligocene and Miocene times. Shorter legged, far more compact than the modern elephant, with both trunk and tusks just beginning to sprout. Nos. 1006–1018.*





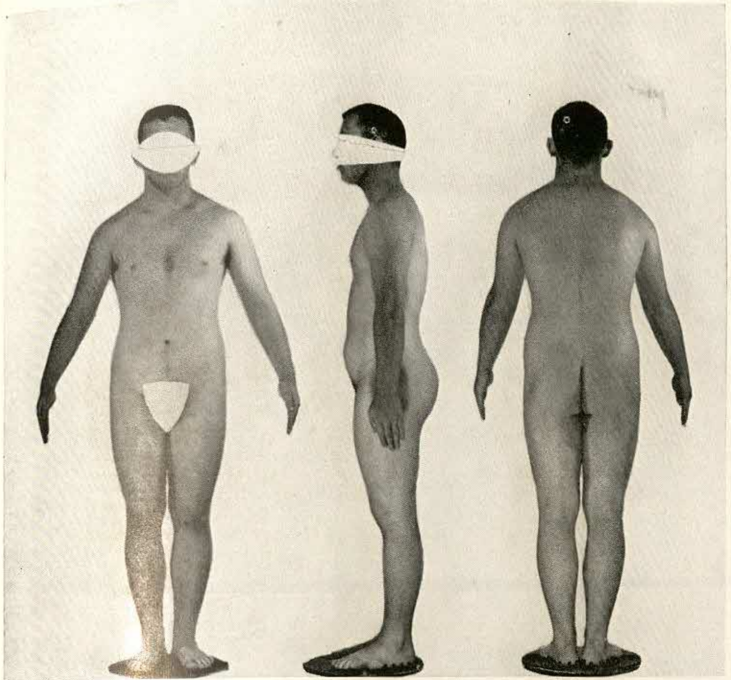
Weight for Age and Height

Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	242	262	276	294	309	329	327	323	320	313
74	233	251	264	281	296	314	313	309	308	302
73	224	241	254	269	284	304	300	296	295	289
72	215	232	244	259	272	291	288	283	283	278
71	207	223	234	249	262	279	277	272	272	267
70	198	214	225	238	251	268	266	261	261	256
69	190	205	215	229	241	257	255	251	250	245
68	182	196	206	219	231	246	243	240	239	235
67	173	187	197	209	220	235	233	229	228	224
66	166	179	188	200	211	224	222	219	218	214
65	158	171	179	191	201	214	213	210	209	205
64	151	163	171	182	192	204	203	200	199	195
63	144	156	163	174	183	195	193	191	190	186
62	137	148	156	166	174	186	185	182	181	177
61	130	141	148	158	166	177	176	174	172	169

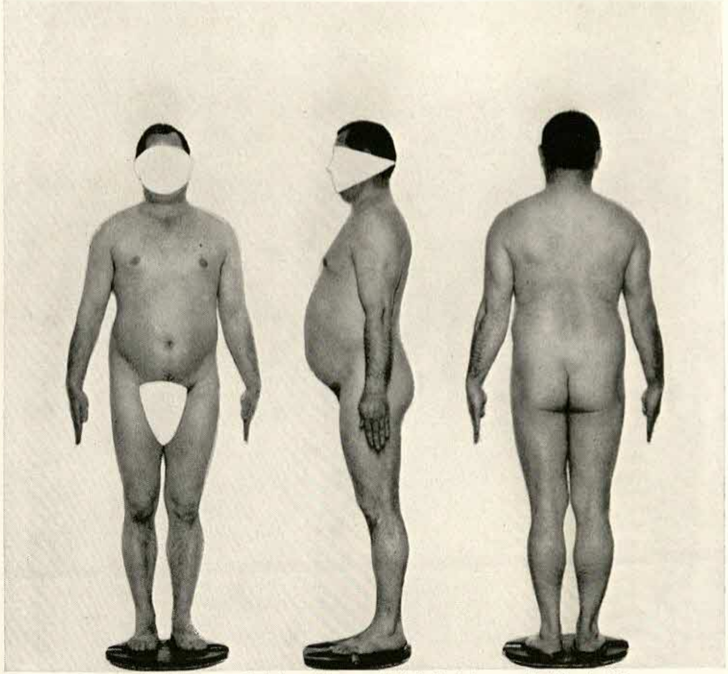
Rarity 4. Incidence 2 per thousand. Truly a down-to-earth somatotype, built for service and not for speed. In our original survey of 4000 college students, emphasizing as it did the more select colleges, we found only 1 per thousand of the 5 5 1 and missed altogether the other elephant somatotype, the 5 5 2, which is actually the commoner one. It should be added that we also missed both the 5 6 1 and the 6 5 1. It is apparent enough that for setting up such a taxonomic structure as somatotyping, a sample of 4000 is insufficient, and moreover that a college sample may be biased and statistically misleading. In the outpatient clinic at Presbyterian Hospital, New York, the 5 5 1 is three or four times as common as in the total sample from which our data are drawn. Judging from day-to-day observation of the subways and public places of New York, the Presbyterian Hospital sample may be somatotypically closer to the general New York City population than a college sample would be. In any case, we almost missed the 5 5 1 at Harvard but have found him generously present in New York and in other big cities.

Usually short, the 5 5 1 at college age and at five feet six will on the average weigh 166 pounds. If he is competing at swimming or wrestling, or for any other reason is trained down, he may weigh about 145 or 150. For wrestling he might get down to 140 without weakening himself. After college age he will typically gain weight on a steep curve until he reaches about 225 in the early forties. Then he will gradually drop 5, 10, or even 20 per cent of the maximal weight. Occasionally a 5 5 1 will burgeon enormously, even doubling his young adult weight and almost literally eating himself to death.

551

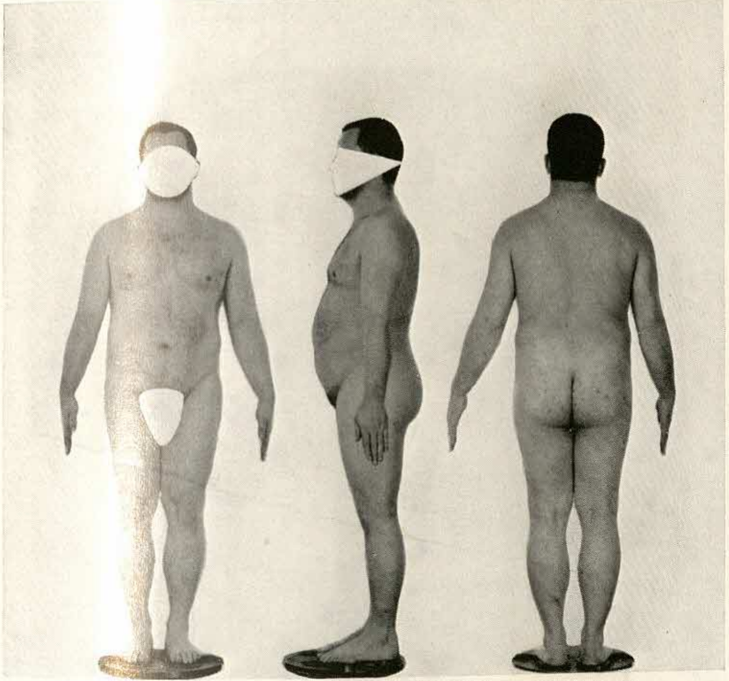


No. 1006 *5 5 1* (*1*) 5 5 1–5 5 1 12.01 at 19
5 5 1, 5 5 1, 5 5 1, 5 4½ 1½, 5½ 5 1

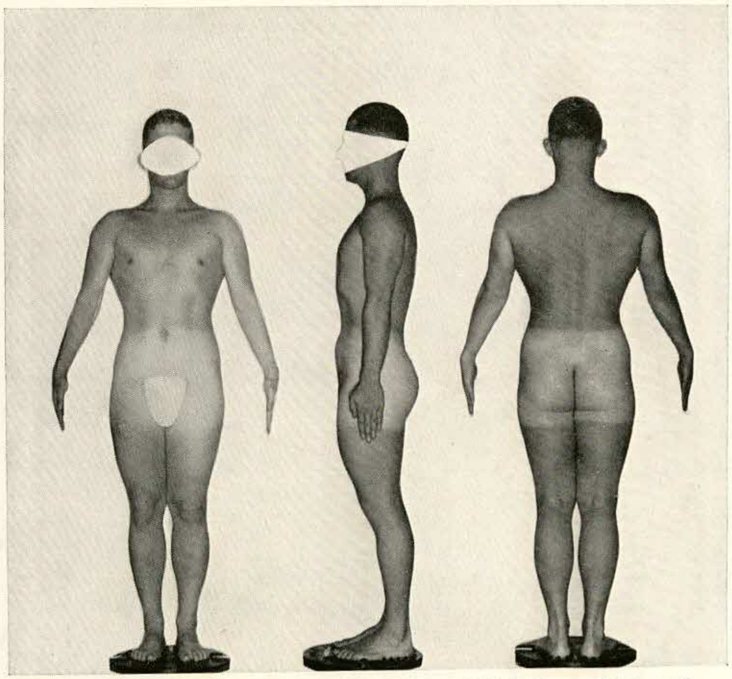


No. 1007 *5 5 1* (*2*) 5 5 1–5 5 1 11.22 at 35
5 5 1, 5 5 1½, 5 4½ 1, 5 5 1, 5 4½ 1½

551

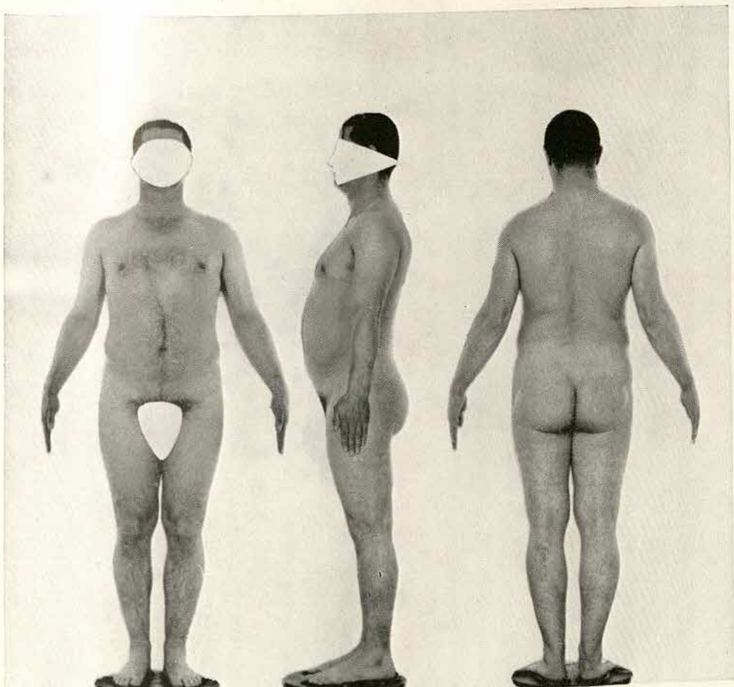


No. 1008 *5 5 1* (*3*) 5 5 1–5 5 1 10.83 at 44
5 5 1, 5 5 1, 5 4½ 1, 5 5 1, 5 5 1

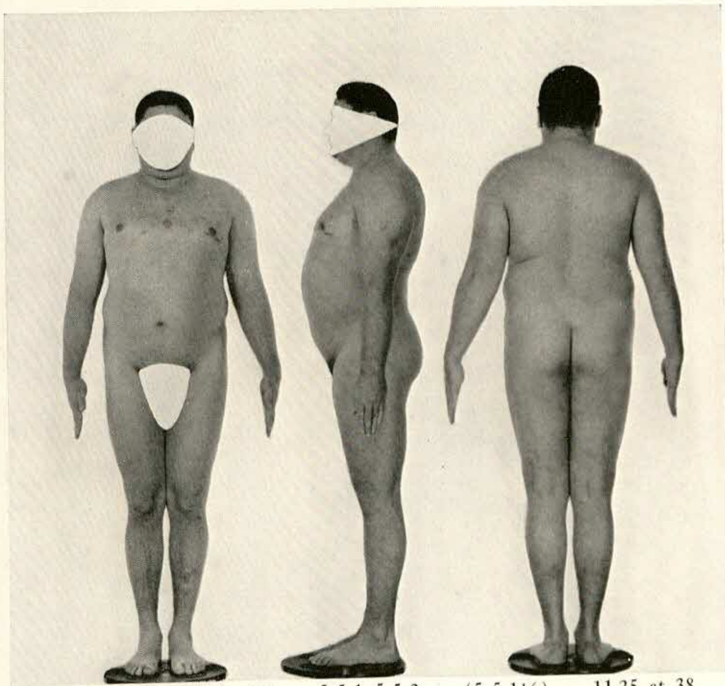


No. 1009 *5 5 1* (*4*) 5 5 1–5 5 2 (5 5 1½) 12.14 at 19
4½ 5 1½, 5 5 2, 5 4½ 1½, 5 5 2, 5 4½ 1½

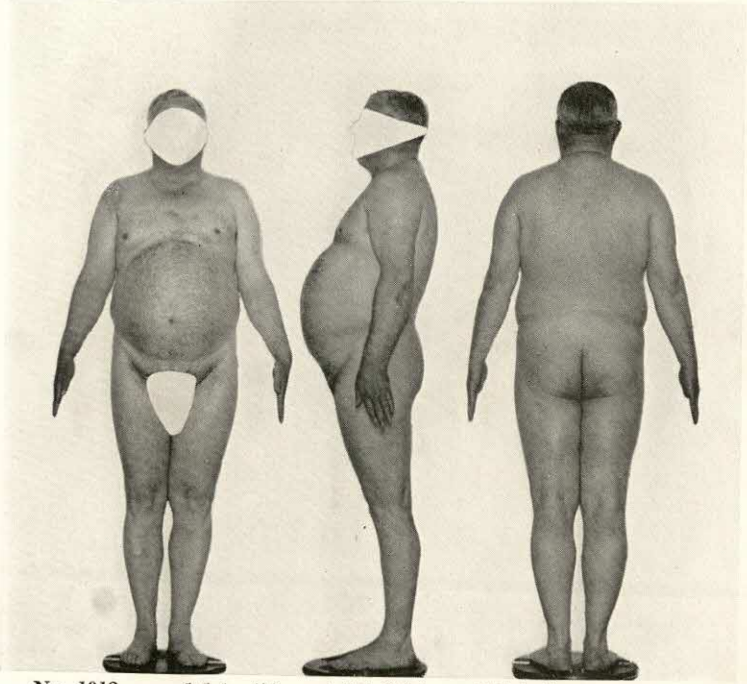
551



No. 1010 *5 5 1* (*5*) 5 5 1–5 5 2 (5 5 1½) 11.40 at 32
5 5 1½, 5 4½ 2, 5 5 1½, 5 4½ 2, 5 5 1½

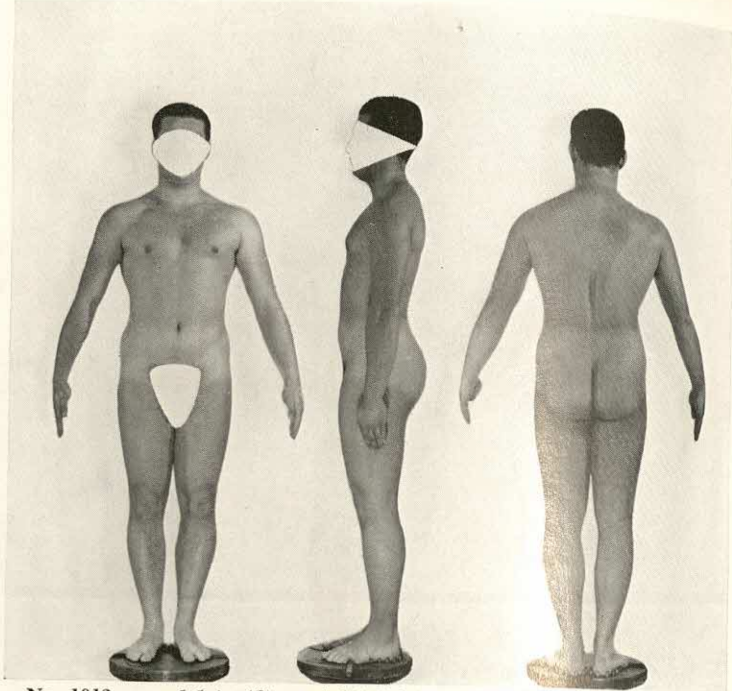


No. 1011 *5 5 1* (*6*) 5 5 1–5 5 2 (5 5 1½) 11.25 at 38
5½ 5 1, 5 4½ 1½, 5½ 5 1, 5 5 1½, 5 5 2

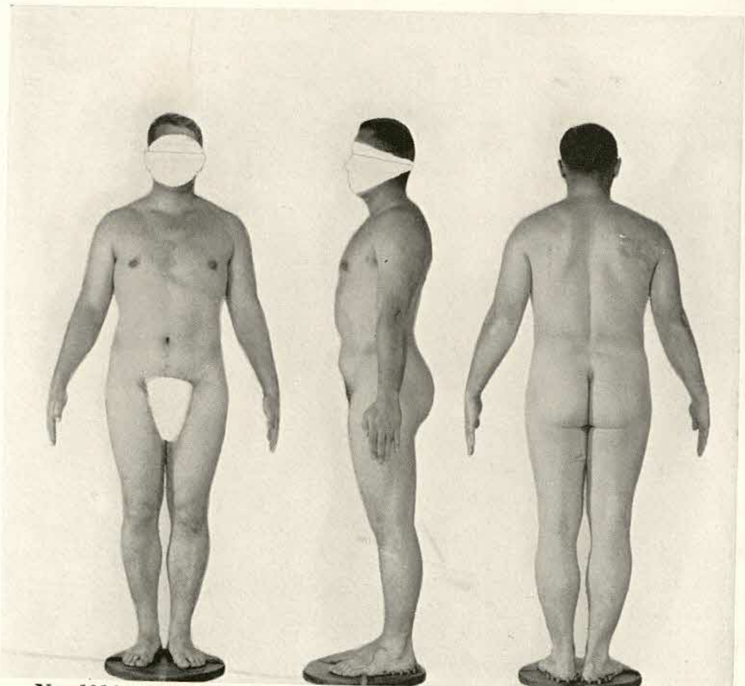


No. 1012 *5 5 1 (7)* 5 5 1–5 5 2 (5 5 1½) 11.08 at 55
5 5 1½, 5 5 1½, 5 5 1½, 5 5 1½, 5 5 1½

551

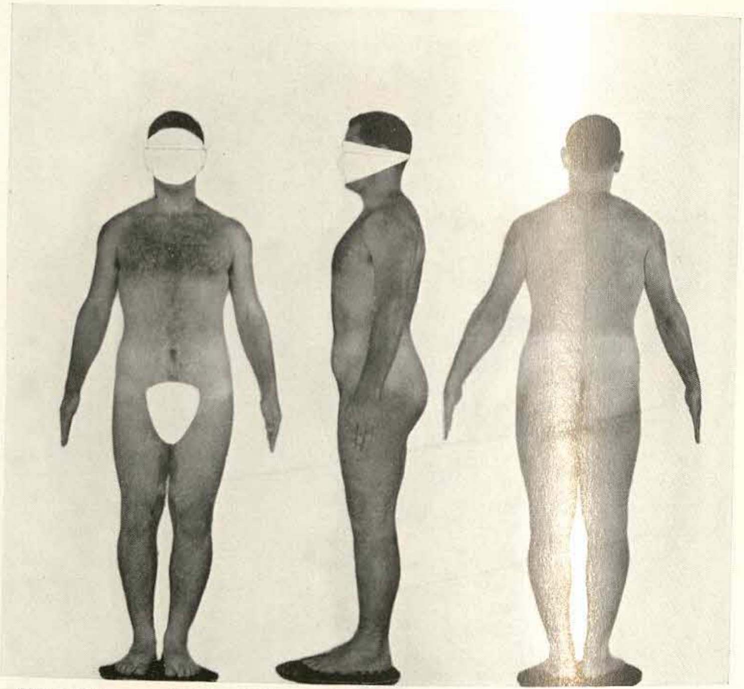


No. 1013 *5 5 1 (8)* 5 5 1–5 6 1 (5 5½ 1) 11.87 at 18
4½ 5 1½, 5 5½ 1, 5 5½ 1, 5 5½ 1, 4½ 5 1½

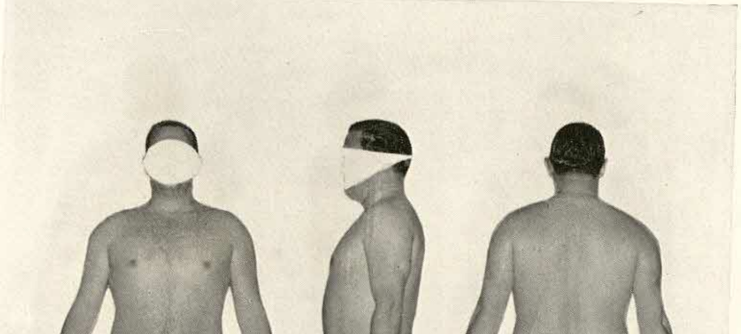


No. 1014 *5 5 1 (9)* 5 5 1–5 6 1 (5 5½ 1) 11.57 at 23
5 5½ 1, 5 5½ 1, 5 5 1½, 4½ 5½ 1, 4½ 5½ 1

551

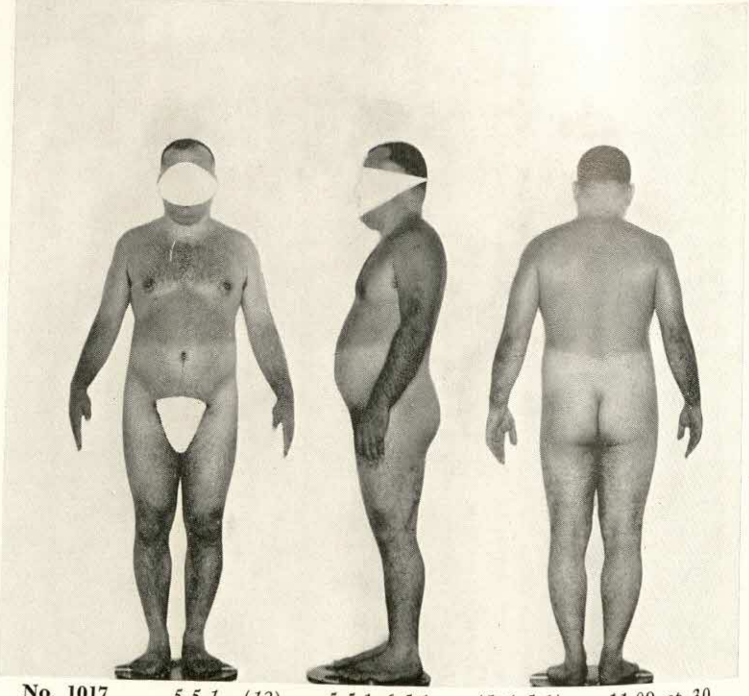


No. 1015 *5 5 1 (10)* 5 5 1–6 5 1 (5½ 5 1) 11.64 at 20
5 5 1½, 5½ 5 1, 5 4½ 1½, 5½ 5 1, 5½ 5 1



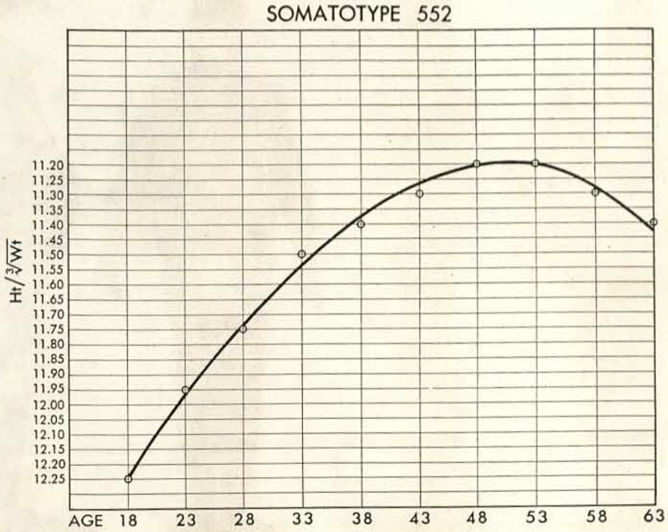
No. 1016 *5 5 1 (11)* 5 5 1–6 5 1 (5½ 5 1) 11.37 at 25
5 5 1, 5 5½ 1, 5½ 4½ 1, 5 5 1, 5½ 5½ 1

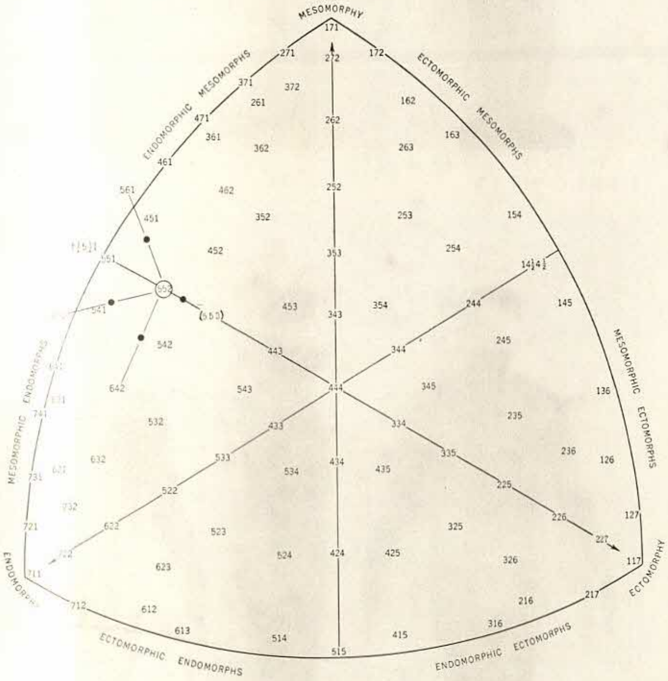
551



No. 1017 *5 5 1 (12)* 5 5 1–6 5 1 (5½ 5 1) 11.09 at 30
5½ 5½ 1, 5½ 4½ 1, 5½ 4½ 1, 5½ 5 1, 5½ 4½ 1

Somatotype 5 5 2 *(An endomorph-mesomorph at the 12-level.) Ancient mammoth, or modern elephant. An elephant is a relatively delicate, long-legged and ectomorphic fellow when compared with some of his Oligocene forbears whose bones we know. Yet he is not one of the really spry creatures. Nos. 1019–1032.*



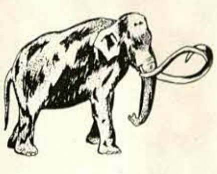


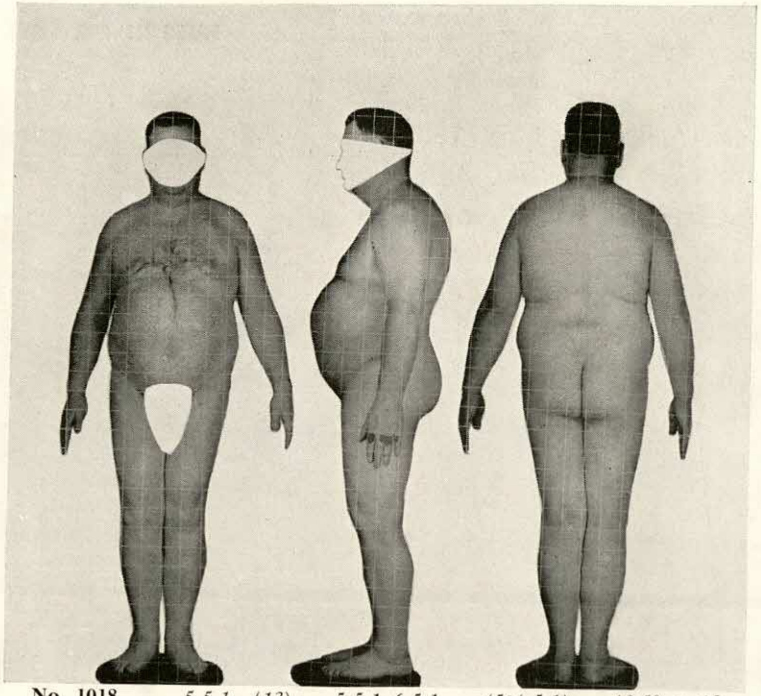
Weight for Age and Height

Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	229	247	259	279	287	294	302	301	294	290
74	220	236	248	268	275	282	289	288	282	278
73	211	226	238	256	263	270	277	275	270	266
72	203	218	229	246	253	259	266	264	259	256
71	195	209	221	236	243	249	255	254	249	246
70	187	201	212	227	233	239	245	243	239	236
69	179	192	203	217	223	229	235	233	229	226
68	171	184	194	208	214	219	225	223	219	216
67	164	176	186	199	204	209	215	213	209	207
66	156	168	178	190	195	200	205	204	200	197
65	149	161	169	181	186	191	196	195	191	188
64	142	153	162	173	178	182	187	186	182	180
63	136	146	154	165	169	174	178	177	174	171
62	130	139	147	157	161	166	170	169	166	163
61	123	132	140	150	154	158	162	161	158	156

Rarity 3. Incidence 6 per thousand. The only somatotype with a 5 in two components to reach a frequency level of rarity 3, and for the elephant somatotypes the 12-level appears to be better tolerated than the 11-level. This last point well illustrates the hazardousness of generalization when you are dealing with multi-dimensional variables. In general, the somatotypes at the 11-level have throughout the series been the most common and have appeared to be longest lived—the ones favored by nature. But when one of the components is at its extreme high or its extreme low, it is necessary to reckon with another and perhaps stronger influence. The extremes remain rare, even when the total component strength adds up to 11. It is apparently the extreme ectopenia of the 11-level 5 5 1 that renders it a rarer somatotype than the 12-level 5 5 2.

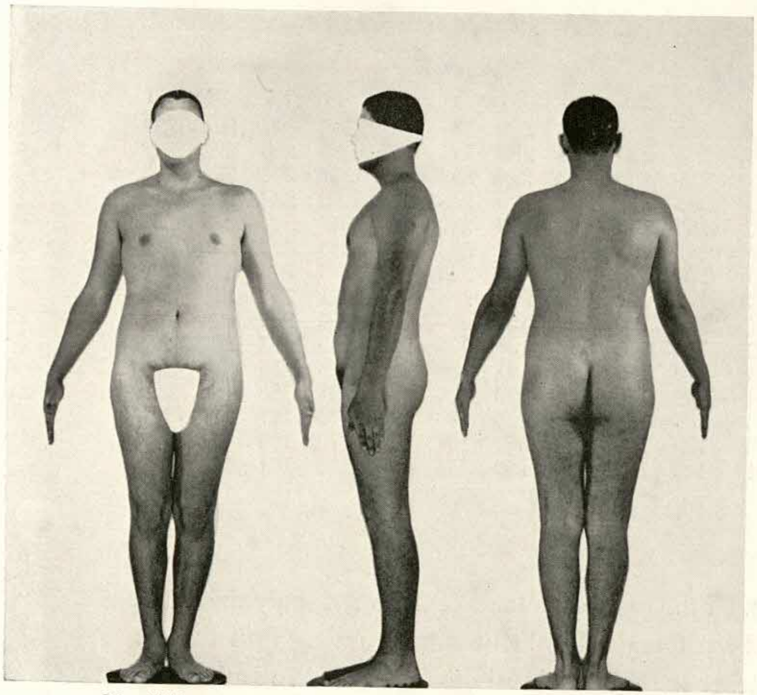
Both the 5 5 1 and the 5 5 2 illustrate the preference of nature for massing her frequency strength in the Northwest. Of the two permutants of the 5 5 1, only the 5 1 5 has been found, and this is so rare among men that its existence may be doubtful (see p. 252). We have never found even a very good candidate for the somatotype 1 5 5. Among men, neither of the permutants of the 5 5 2 has turned up, although the 5 2 5 is present among women as a rare somatotype. Nature seems to encourage the massing of the first two components against the third, and she appears to tolerate a massing of the first and third against the second more frequently than a massing of the second and third against the first. Put the other way, nature is tolerant of ectopenia, less tolerant of mesopenia, least tolerant of endopenia.



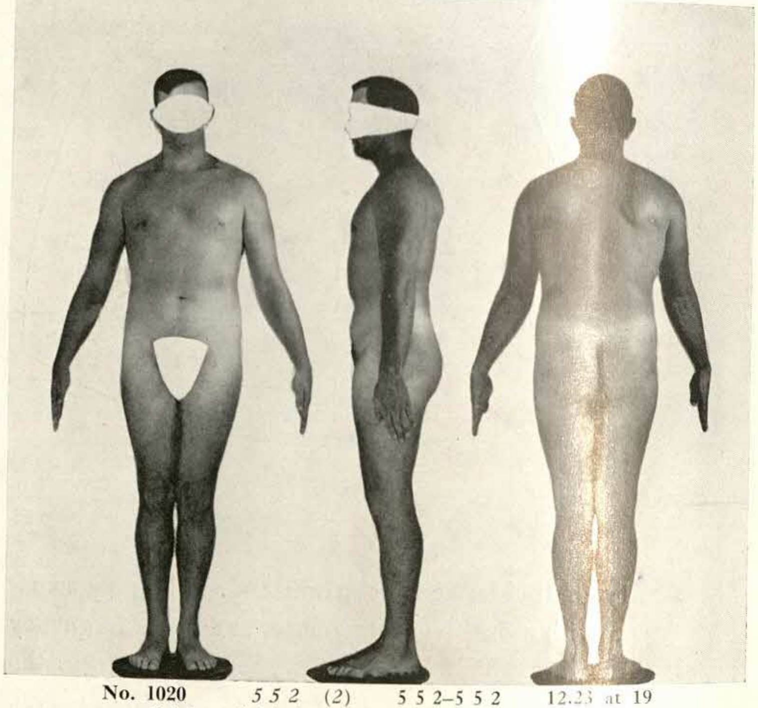


No. 1018 *5 5 1* (*13*) 5 5 1–6 5 1 (5½ 5 1) 10.50 at 45
5½ 5 1, 5½ 5 1, 5½ 5 1, 5½ 5 1, 5½ 5 1

552

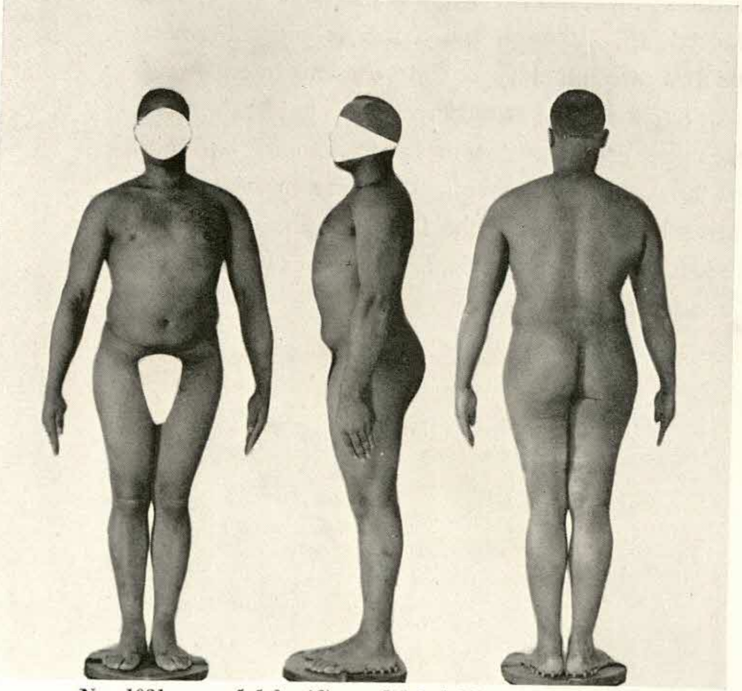


No. 1019 *5 5 2* (*1*) 5 5 2–5 5 2 12.26 at 18
5 4½ 2, 5 5 2, 5 5 2, 5 5 2, 5 4½ 2½

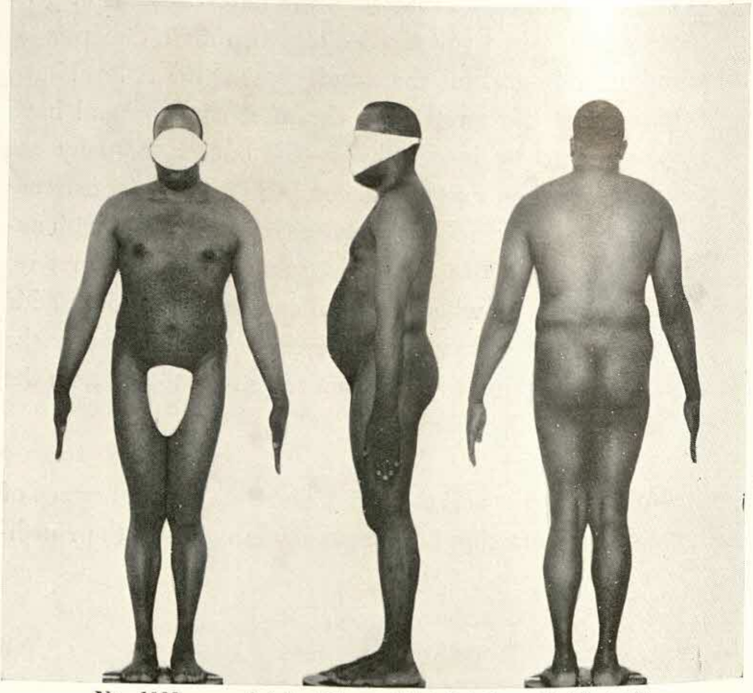


No. 1020 *5 5 2* (*2*) 5 5 2–5 5 2 12.23 at 19
5 5 2, 5 5 1½, 5 5 2, 5 5 2, 5 4½ 2½

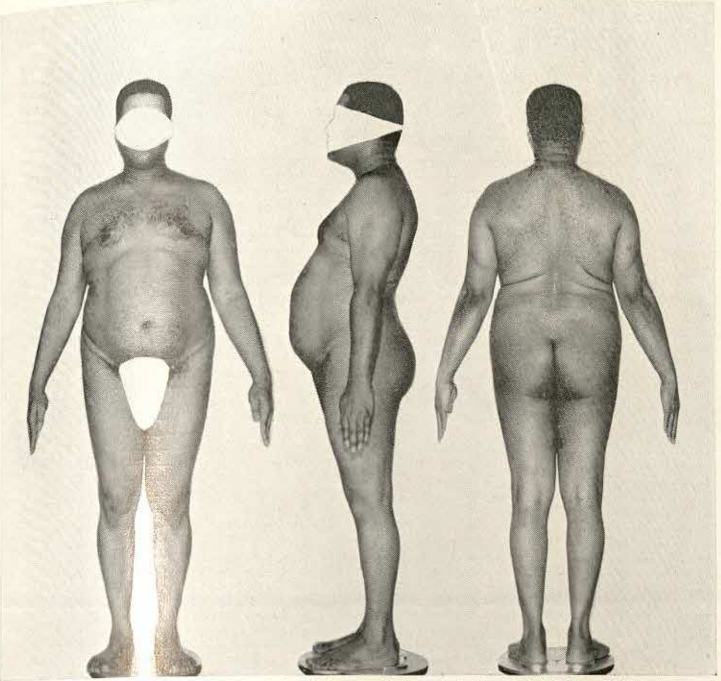
552



No. 1021 *5 5 2* (*3*) 5 5 2–5 5 2 11.68 at 29
4½ 5 2, 5 5½ 1½, 5 5 1½, 5 5 1½, 5 5 2½

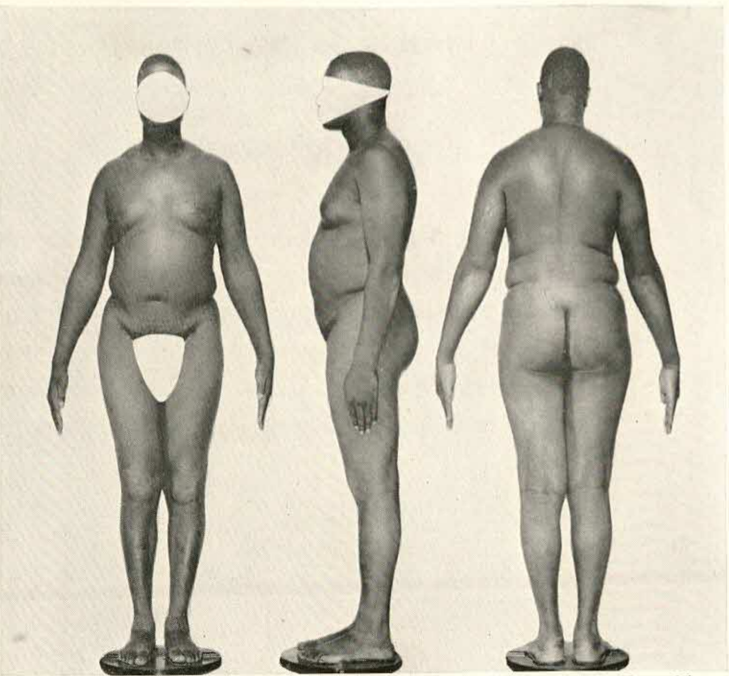


No. 1022 *5 5 2* (*4*) 5 5 2–5 5 2 11.65 at 30
5 5 1½, 5 5 2½, 5 4½ 2½, 5 5 2, 5 4½ 2½

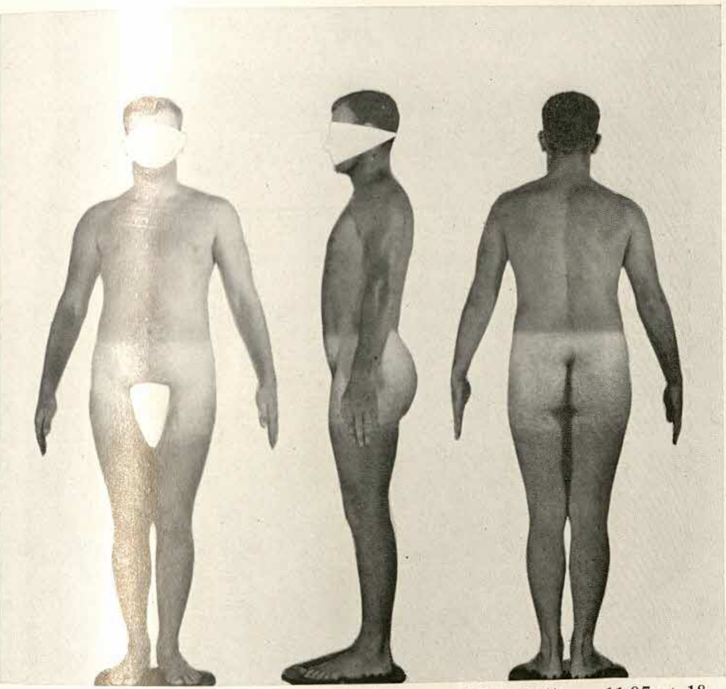


No. 1023 *5 5 2* *(5)* 5 5 2–5 5 2 11.30 at 44
5 5 2, 5 5 2½, 5 5 1½, 5 5 1½, 5 4½ 2½

552

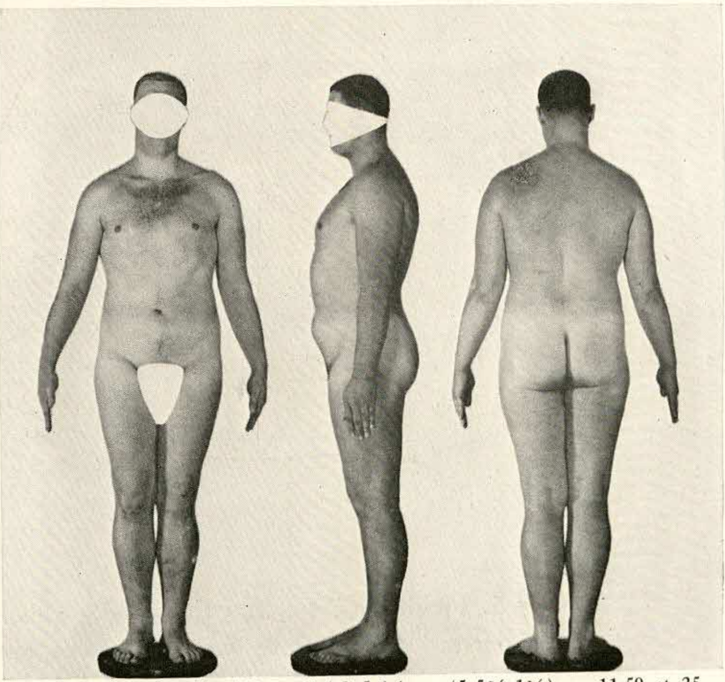


No. 1024 *5 5 2* *(6)* 5 5 2–5 5 3 (5 5 2½) 11.88 at 25
4 5 3, 5 4½ 2, 5 4½ 2½, 5 5 2, 5 5 2½

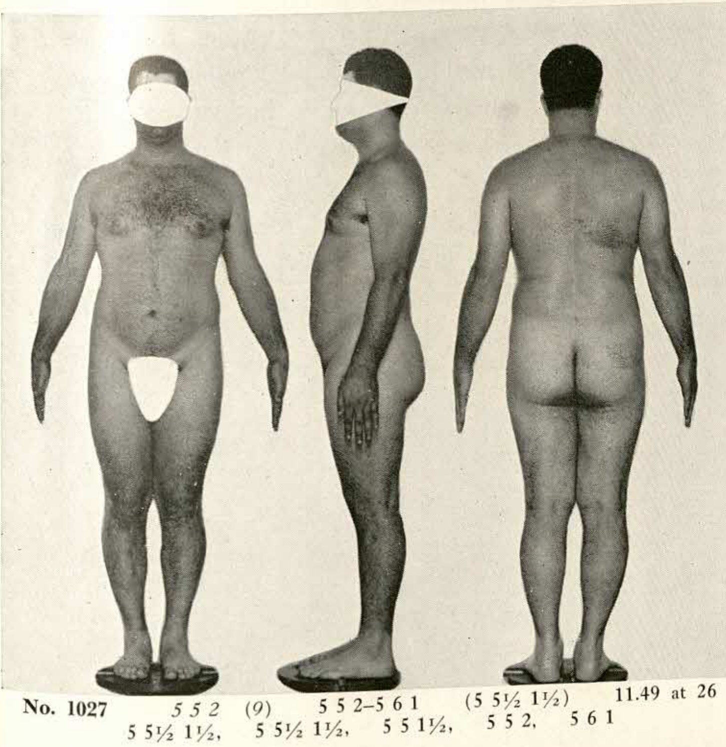


No. 1025 *5 5 2* *(7)* 5 5 2–5 6 1 (5 5½ 1½) 11.97 at 18
5 5½ 1½, 5 5½ 1½, 5 5½ 1½, 5 5 1½, 5 5½ 1½

552

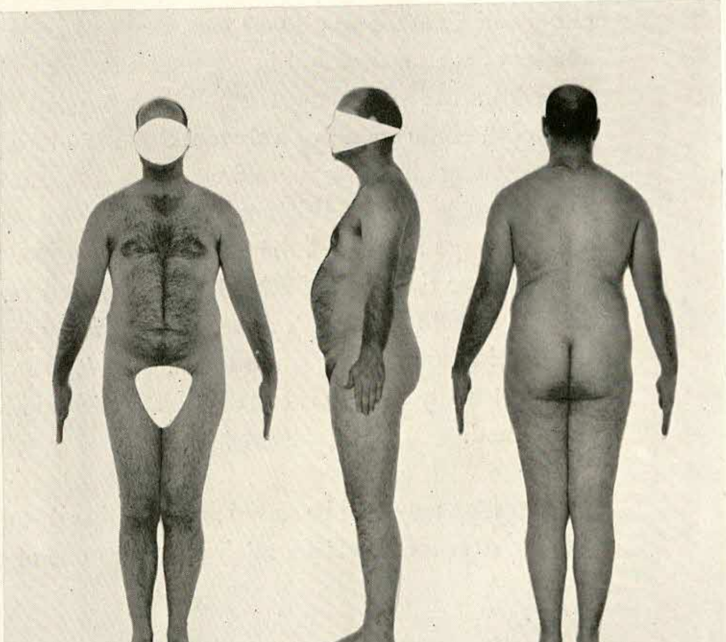


No. 1026 *5 5 2* *(8)* 5 5 2–5 6 1 (5 5½ 1½) 11.59 at 25
5 5½ 1½, 5 5½ 1½, 5 5½ 1½, 5 6 1, 5 5½ 1



No. 1027 *5 5 2* *(9)* 5 5 2–5 6 1 (5 5½ 1½) 11.49 at 26
5 5½ 1½, 5 5½ 1½, 5 5 1½, 5 5 2, 5 6 1

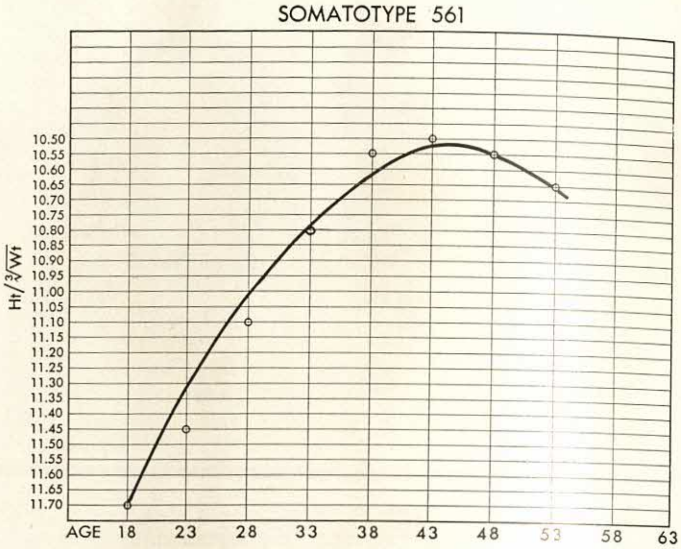
552

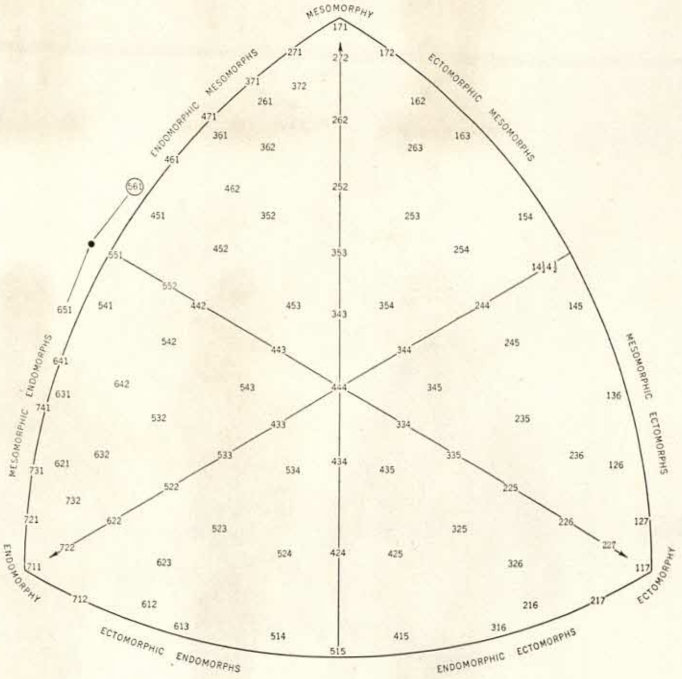


No. 1028 *5 5 2* *(10)* 5 5 2–6 4 2 (5½ 4½ 2) 11.50 at 30
5 4 2, 5½ 4½ 2½, 5½ 4½ 1½, 5½ 4 2, 5½ 4½ 2

34. A RHINOCEROS

Somatotype 5 6 1 *(Endomorphic extreme mesomorphy at extreme ectopenia, 12-level.) The modern African rhinoceros. Sturdiest of living animals, with the toughest hide, and an utter ectopene. Lonely descendant of gigantic herbivorous ectopenes of Pleistocene days. An armored tank from the distant past. Nos. 1033–1041.*





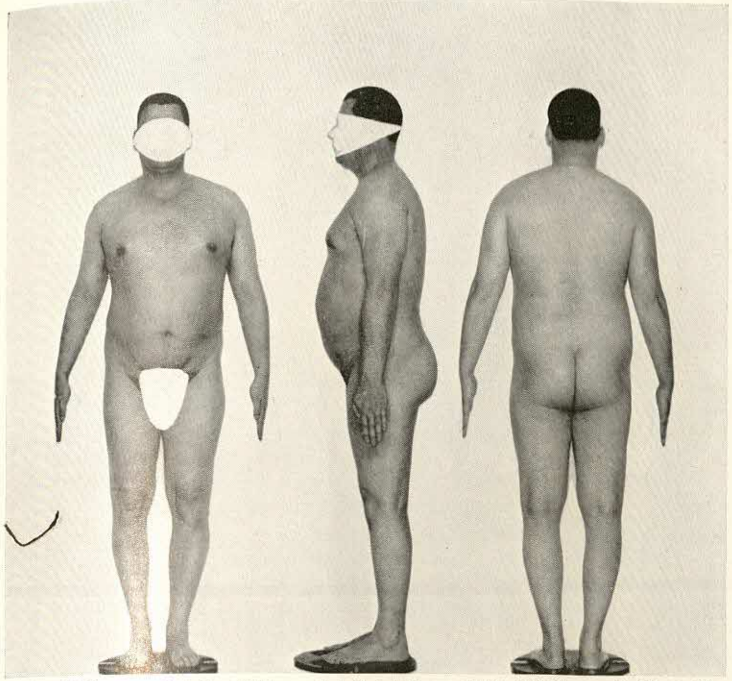
Weight for Age and Height

Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	262	282	308	336	361	367	361	348	..	..
74	252	270	295	323	347	352	347	334	..	..
73	242	260	283	309	333	338	333	320	..	..
72	232	249	272	297	321	324	321	308	..	..
71	222	239	261	285	308	311	308	296	..	..
70	213	229	250	273	294	298	294	283	..	..
69	204	219	240	261	283	286	283	271	..	..
68	195	210	230	250	270	274	270	259	..	..
67	187	200	220	238	258	262	258	247	..	..
66	179	191	210	229	246	250	246	237	..	..
65	171	183	200	218	235	238	235	226	..	..
64	163	174	191	208	225	228	225	216	..	..
63	155	167	182	199	214	217	214	205	..	..
62	148	159	174	190	204	208	204	196	..	..
61	141	152	166	181	194	198	194	186	..	..

Rarity 5. Incidence 7 per ten thousand. This is the last of our series of Northwestern somatotypes, and the most Northwestern of them all. It is a physique built to "hold the line," and lucky the football team that has a pair of *big* 5 6 1's at the guard positions. Small, or average examples of such a slow and heavy-footed ectopene would be of little use in topflight football. It is too easy to run *around* the little ones. But a six foot 5 6 1 is a rare prize. At college age he has a normal weight of 232, can easily train down to 210, and that is just about the weight at which a large number of the best football linemen play. Shortly after the days of athletic training are over, the big 5 6 1 will fatten to his normal weight for age unless heroic inhibitory measures are taken. That is to say, unless a virtually permanent state of athletic training is maintained.

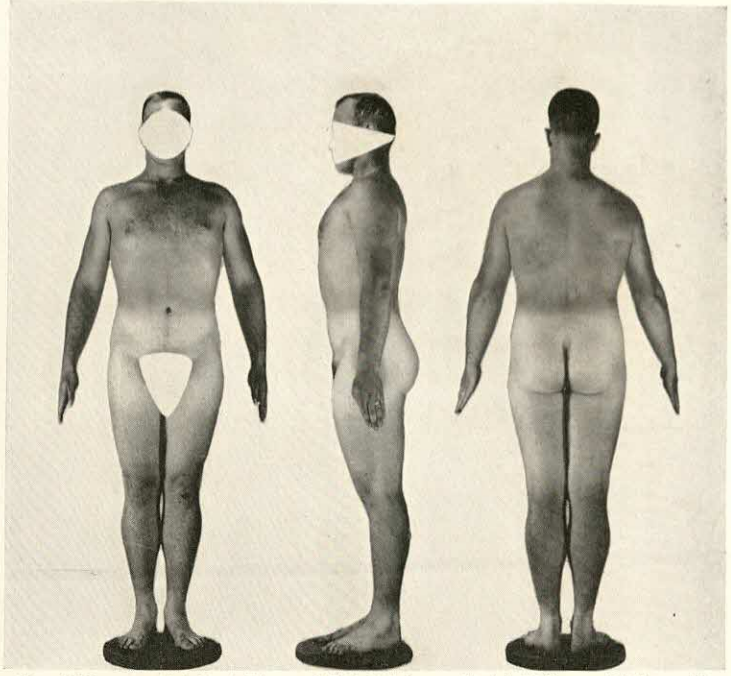
The question may well be raised as to whether diet alone, without strenuous exercise, might not keep one of these extreme Northwestern ectopenes at a point say 10 per cent below his normal weight—and at the same time keep him in good health. It is a moot question. I would like to see the experiment carried out. It would require experienced, dependable somatotyping, perfect coöperation from the subjects selected, a well-handled food kitchen in some pleasant location, and two decades of the most accurate and patient kind of systematic record-keeping.

Without restriction, a six foot 5 6 1 seems normally to reach about 324 pounds in his early forties, and if he survives beyond the fifth decade he tends to drop back in weight quite drastically.

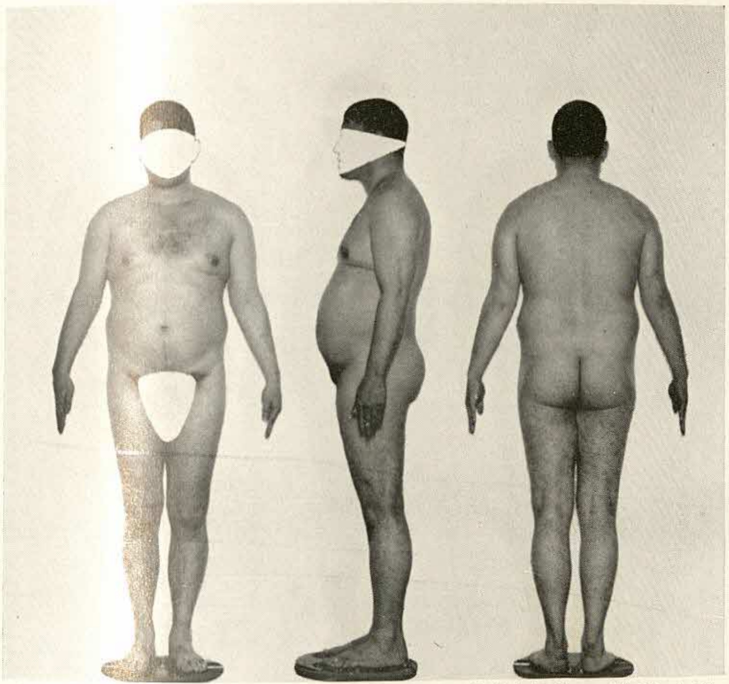


No. 1029 *5 5 2* (*11*) 5 5 2–6 4 2 (5½ 4½ 2) 11.17 at 39
5½ 4½ 2, 5½ 5 1½, 5½ 4½ 1½, 5 5 2, 5 4½ 2

552

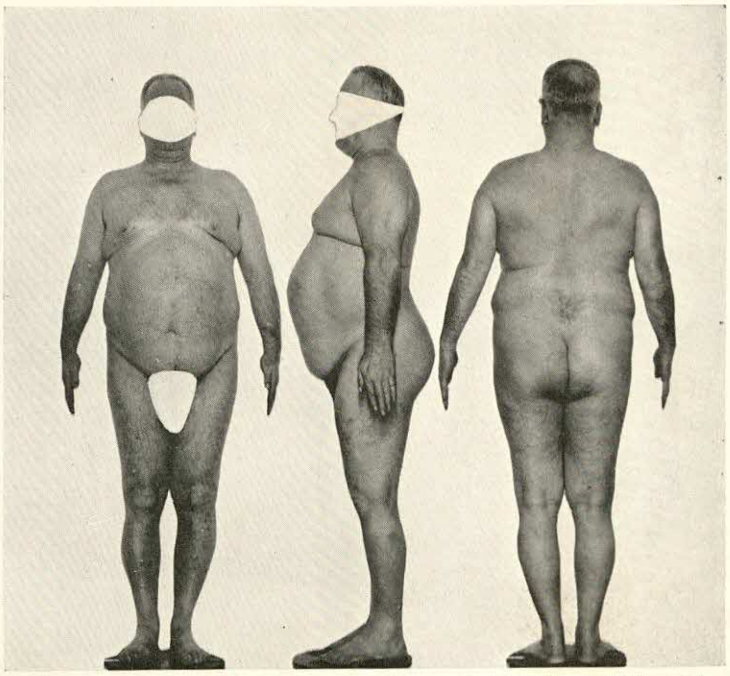


No. 1030 *5 5 2* (*12*) 5 5 2–6 5 1 (5½ 5 1½) 11.75 at 20
5 4½ 1½, 5½ 5 1, 5½ 5 1½, 5½ 5 1½, 5½ 5 1½

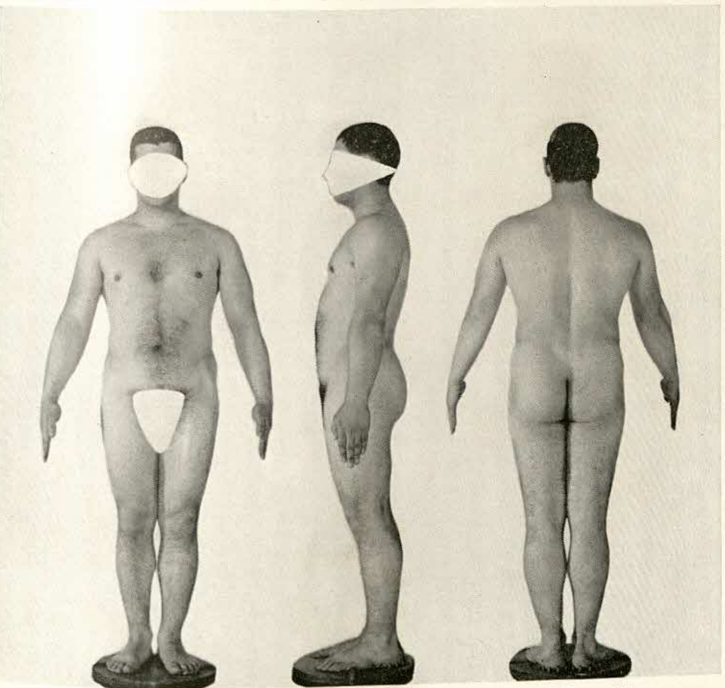


No. 1031 *5 5 2* (*13*) 5 5 2–6 5 1 (5½ 5 1½) 11.52 at 25
5½ 5 1½, 5½ 5 1½, 5½ 4½ 1½, 5½ 5 1½, 5½ 5 1½

552

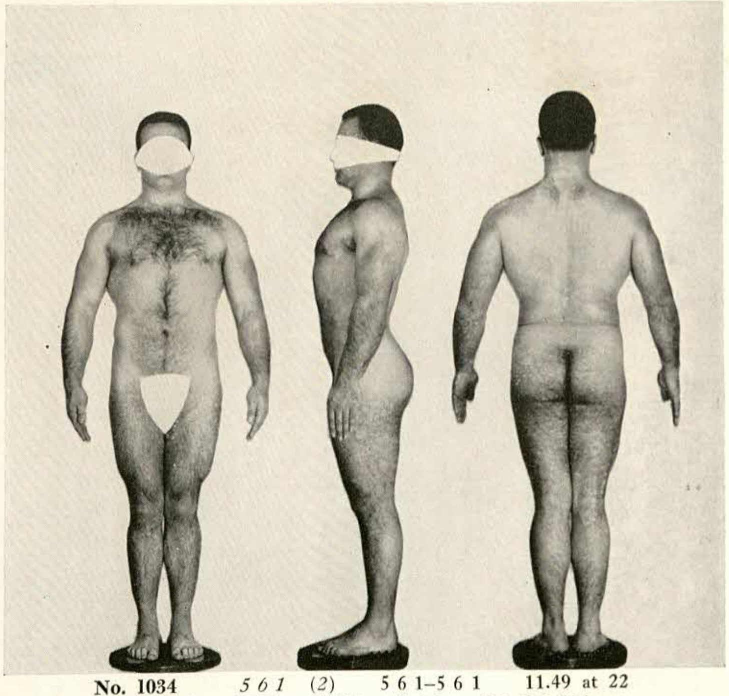


No. 1032 *5 5 2* (*14*) 5 5 2–6 5 1 (5½ 5 1½) 10.77 at 55
5½ 5 1½, 5½ 5 1½, 5½ 5 1, 5½ 5 1½, 5½ 5 1½

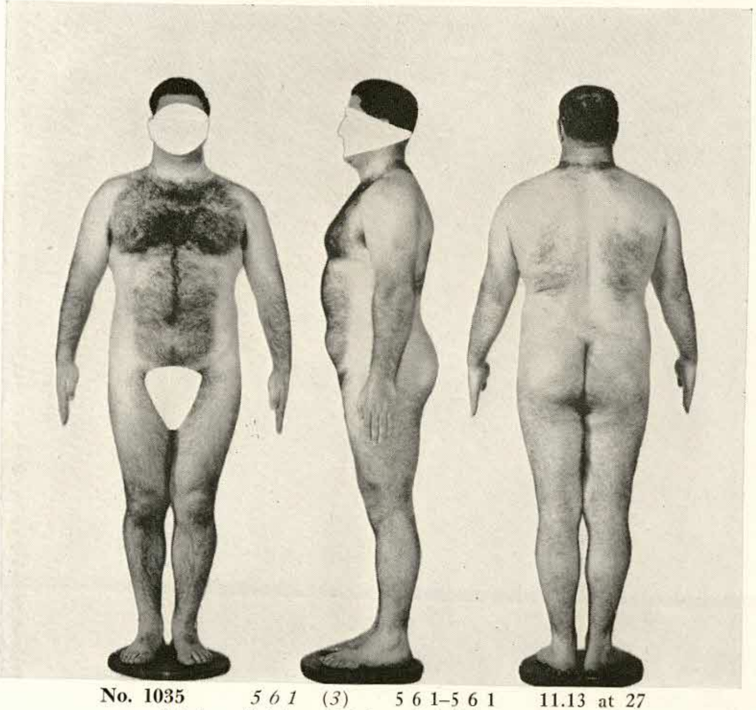


No. 1033 *5 6 1* (*1*) 5 6 1–5 6 1 11.66 at 19
5 5½ 1, 5 6 1, 5 6 1, 5 6 1, 5 6 1

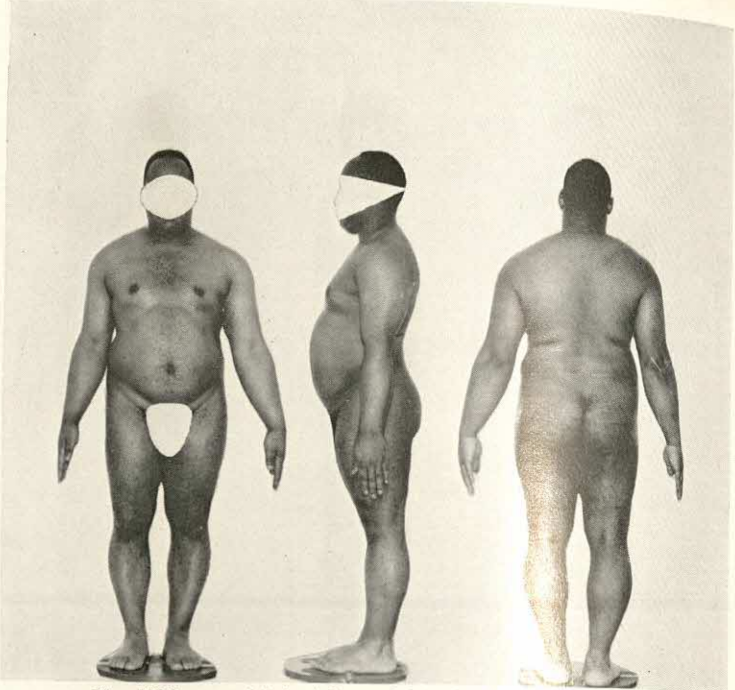
561



No. 1034 *5 6 1* (*2*) 5 6 1–5 6 1 11.49 at 22
5 5½ 1, 5 6 1, 5 6 1, 5 6 1, 5½ 5½ 1½

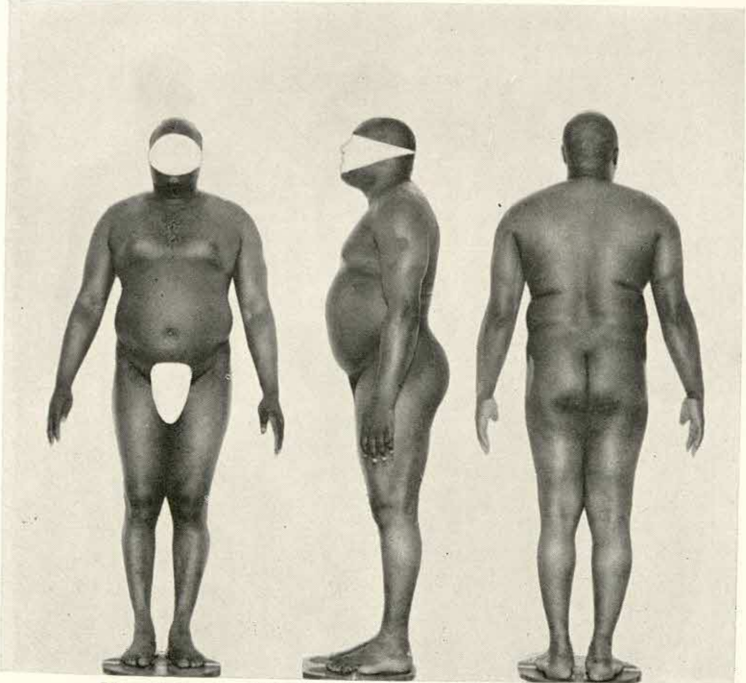


No. 1035 *5 6 1* (*3*) 5 6 1–5 6 1 11.13 at 27
5 6 1, 5 6 1, 5 6 1, 5½ 5½ 1, 5 6 1

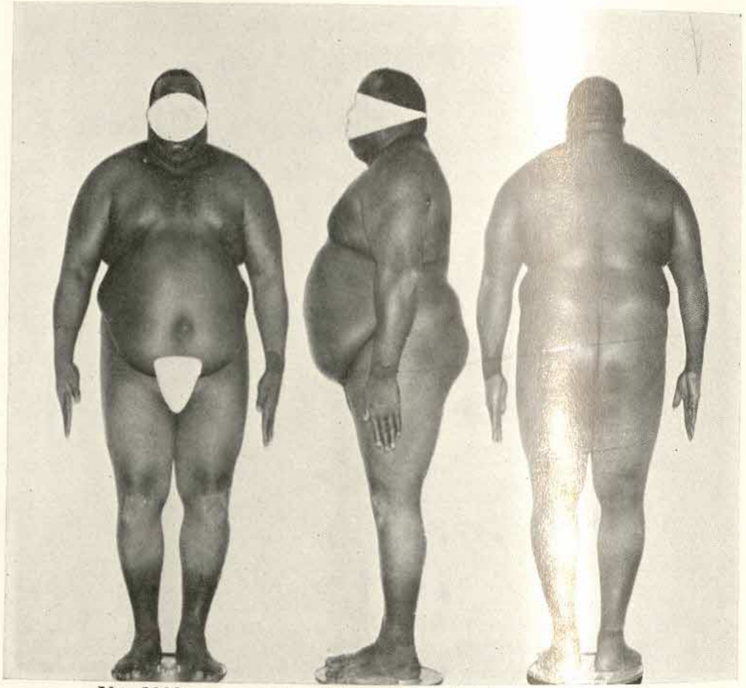


No. 1036 *5 6 1* (*4*) 5 6 1–5 6 1 10.55 at 37
4 6 1, 5 6 1, 5 6 1, 5 6 1, 5 6 1

561

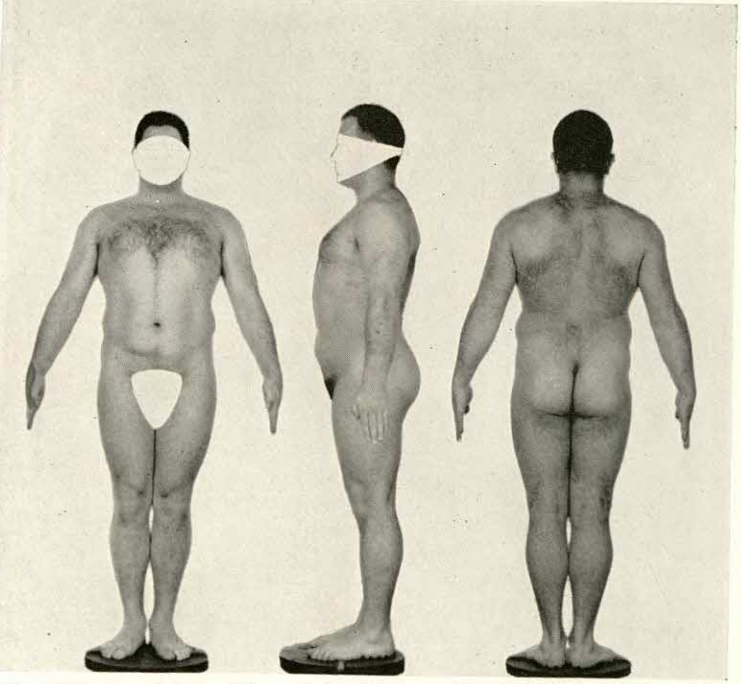


No. 1037 *5 6 1* (*5*) 5 6 1–5 6 1 10.51 at 41
5 6 1, 4½ 6½ 1, 4½ 6½ 1, 5 6 1, 5 5½ 2

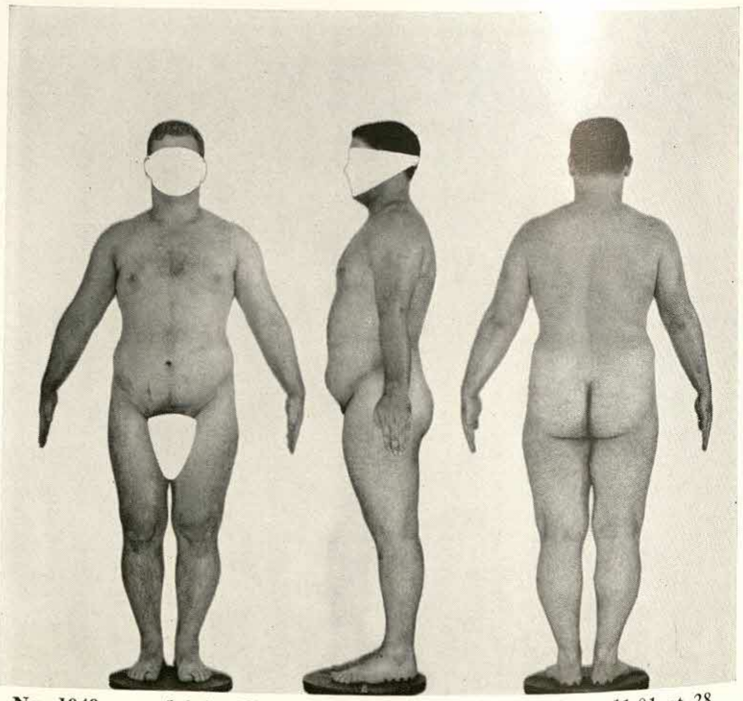


No. 1038 *5 6 1* (*6*) 5 6 1–5 6 1 10.00 at 52
6 5 1, 5 6 1, 4 6½ 1½, 6 5 1, 4 6½ 1½

561



No. 1039 *5 6 1* (*7*) 5 6 1–6 5 1 (5½ 5½ 1) 11.33 at 23
5½ 5½ 1, 5½ 5½ 1, 5½ 5½ 1, 5½ 5½ 1, 5½ 5½ 1



No. 1040 *5 6 1* (*8*) 5 6 1–6 5 1 (5½ 5½ 1) 11.01 at 28
5½ 5½ 1, 5½ 5½ 1, 5½ 5 1, 5½ 5½ 1½, 6 5 1

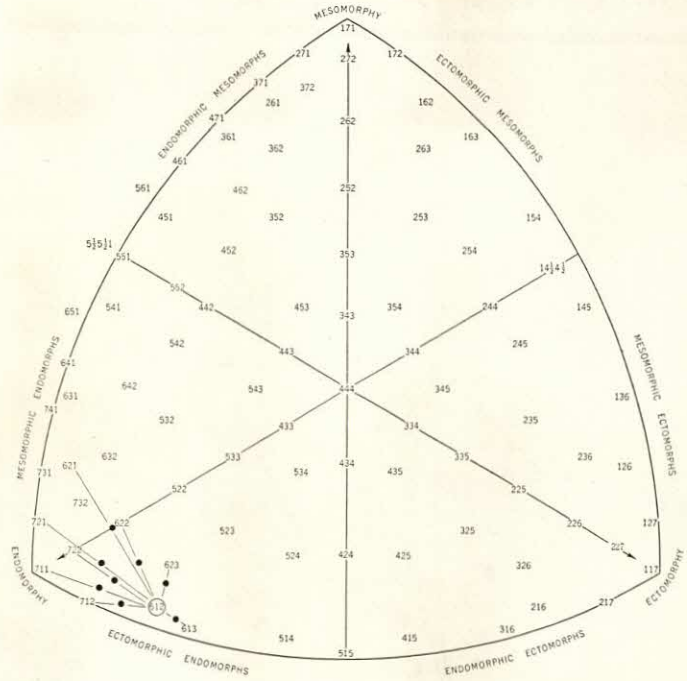
561

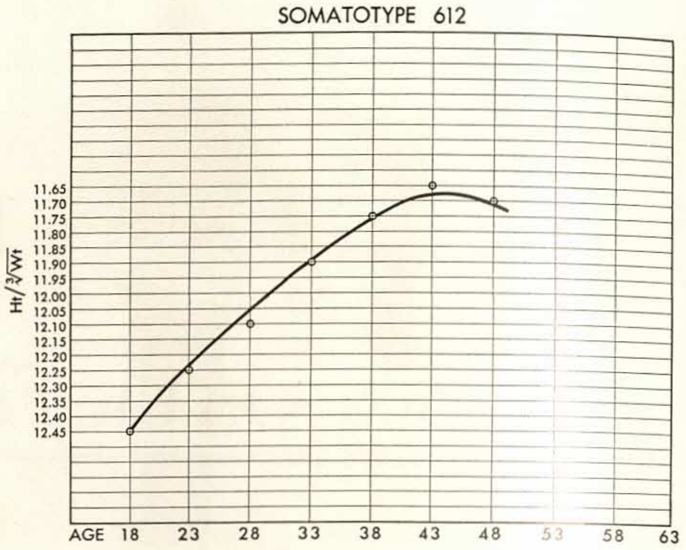
11

Sixes in the First Component

35. AUKS AND PENGUINS. WEAK-WINGED SWIMMERS

Somatotype 6 1 2 *(Ectomorphic extreme endomorphy at extreme mesopenia, 9-level.) Auks. The weak-winged swimmers, or* pygopodes. *Fat, innocent, friendly birds who love the water. On land they are as helpless as toddling infants and in the air are not much better off. Dovekies, auklets, puffins and the late great auk. Nos. 1042–1052.*





Weight for Age and Height

Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	219	230	239	250	259	268	263	..	..	..
74	209	220	229	239	248	256	252	..	..	..
73	201	212	220	230	238	246	242	..	..	..
72	193	204	212	221	228	236	232	..	..	..
71	185	195	203	212	219	227	223	..	..	..
70	178	187	195	204	211	218	214	..	..	..
69	170	180	187	195	202	209	205	..	..	..
68	163	172	179	189	193	200	196	..	..	..
67	156	164	171	179	185	191	188	..	..	..
66	149	157	163	170	177	182	179	..	..	..
65	142	150	156	163	168	174	171	..	..	..
64	135	143	148	155	161	166	163	..	..	..
63	129	136	141	148	154	158	156	..	..	..
62	123	130	135	141	147	151	149	..	..	..
61	117	124	128	135	140	144	142	..	..	..

Rarity 5. Incidence 4 per ten thousand. An extreme rarity from down under, deep in the mesopenic South. On the far lower edge of the distribution and almost over the horizon. This dumplinglike cherub, whose fighting power on land would scarcely protect him from a determined sparrow, offers a striking contrast with the great bears and with the rhinoceros somatotype which we have just been considering. The difference between these divergent human beings seems to be of the order of that between a police dog and a Mexican hairless—both of whom are members of the dog family and of the same species since presumably they can interbreed.

Yet they are of the same species only in that technical sense. They are not *quite* far enough apart to prevent interbreeding. In a secondary, "racial" sense they are strikingly different and, at least in the case of the police dog and the Mexican hairless, the differences are demonstrably genetic. That is to say, a mating of police dogs produces police dogs and a mating of Mexican hairlesses produces Mexican hairlesses. We know from Stockard's work[1] that the cross between the two, if consummated, would produce widely varying patterns, some possibly vigorous and adaptable ("hybrid vigor"), some bizarre and barely viable or nonviable ("dysgenic deterioration"). What we do not know is (a) the extent to which the 6 1 2 and 5 6 1 patterns are genetically determined, and (b) what are the somatotypic consequences of *this* cross, if it can be consummated.

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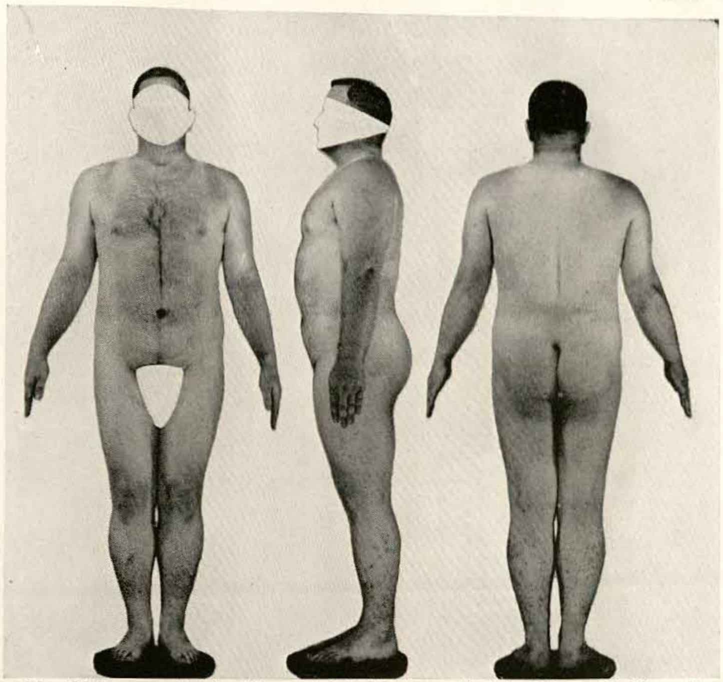
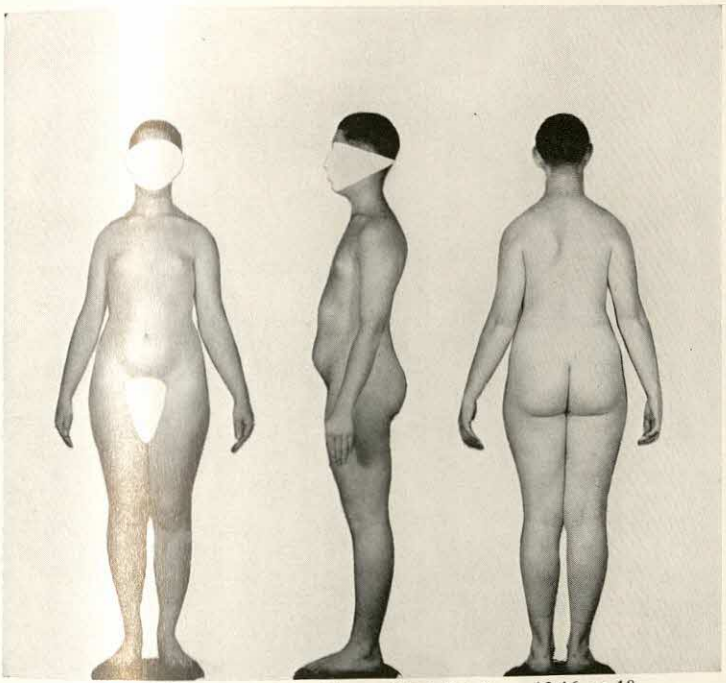
[1] In his book *The Physical Basis of Personality*, 1931, Prof. C. R. Stockard reported a series of experiments on the crossing of radically different breeds of dogs. He got results fully as bizarre as any human beings yet seen, even in the museums of pathology.

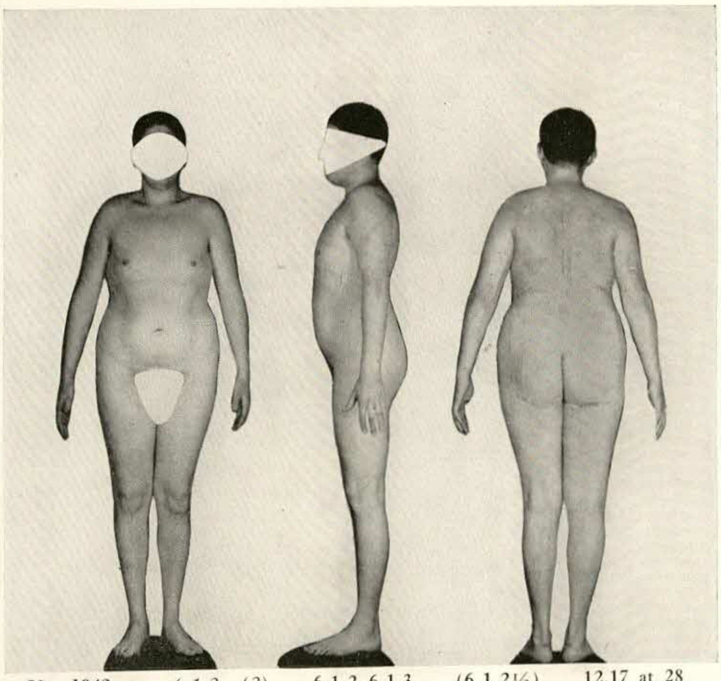


No. 1041 *5 6 1* (*9*) 5 6 1–6 5 1 (5½ 5½ 1) 10.90 at 30
5½ 5½ 1, 5½ 5½ 1, 5½ 5½ 1, 5½ 5½ 1, 5½ 5½ 1

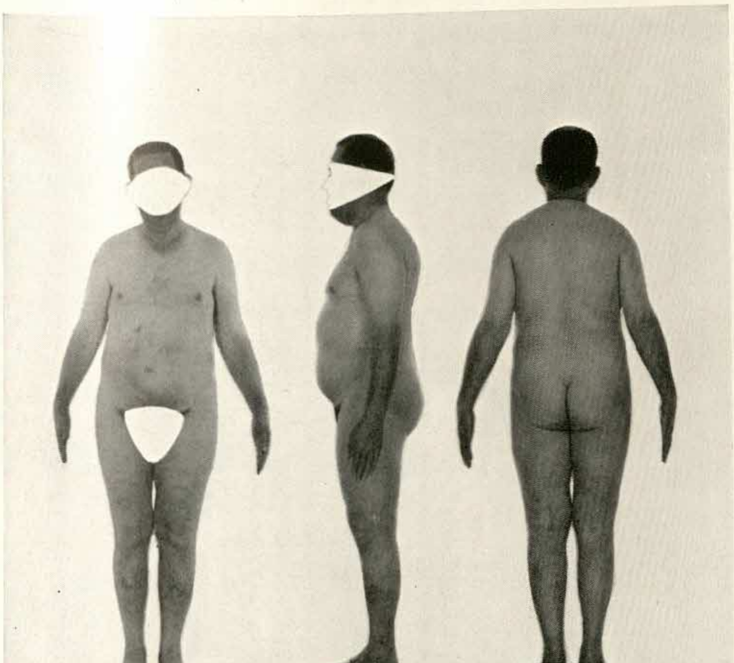


No. 1042 *6 1 2* (*1*) 6 1 2–6 1 2 12.46 at 18
6 1½ 2, 6 1 2, 6 1 2½, 6 1 2, 6 2 1½

612

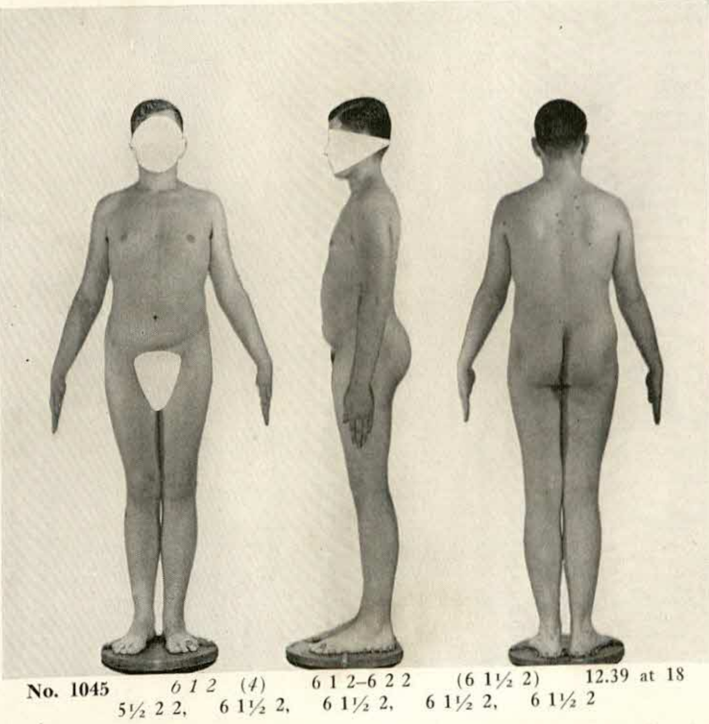


No. 1043 *6 1 2* (*2*) 6 1 2–6 1 3 (6 1 2½) 12.17 at 28
6 1 2½, 6 1½ 2½, 6 1 3, 6 1 2½, 6 1 3

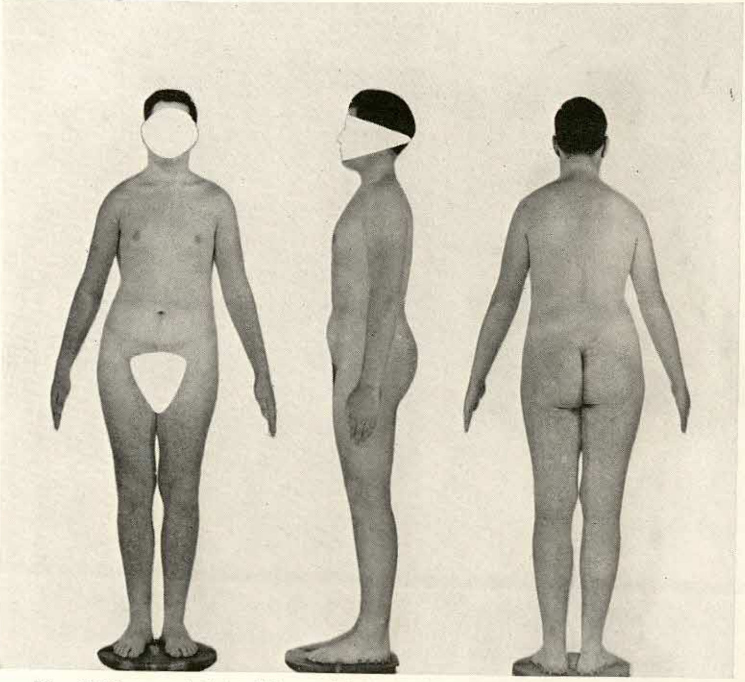


No. 1044 *6 1 2* (*3*) 6 1 2–6 2 1 (6 1½ 1½) 11.50 at 40
6 1½ 2, 6 1½ 2, 6 1½ 1½, 6 2 1½, 6 2 2

612

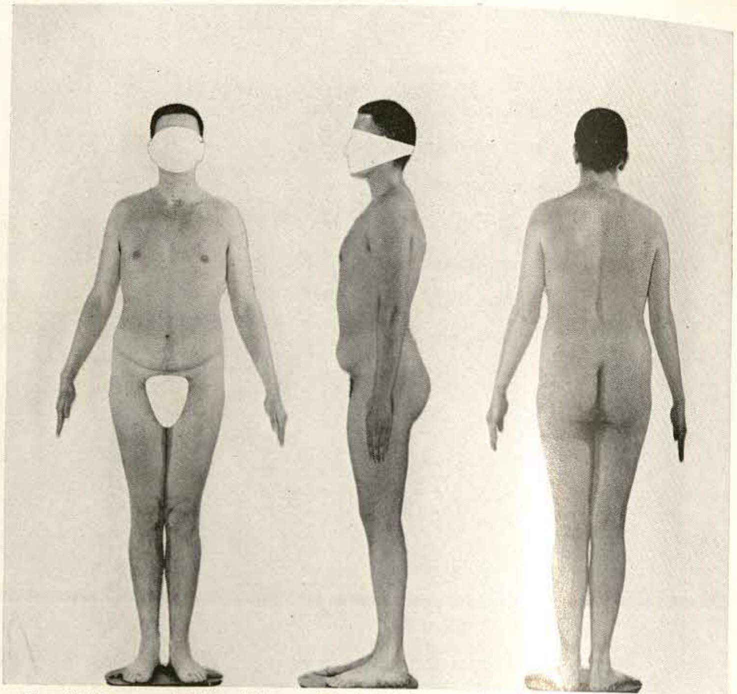


No. 1045 *6 1 2* (*4*) 6 1 2–6 2 2 (6 1½ 2) 12.39 at 18
5½ 2 2, 6 1½ 2, 6 1½ 2, 6 1½ 2, 6 1½ 2

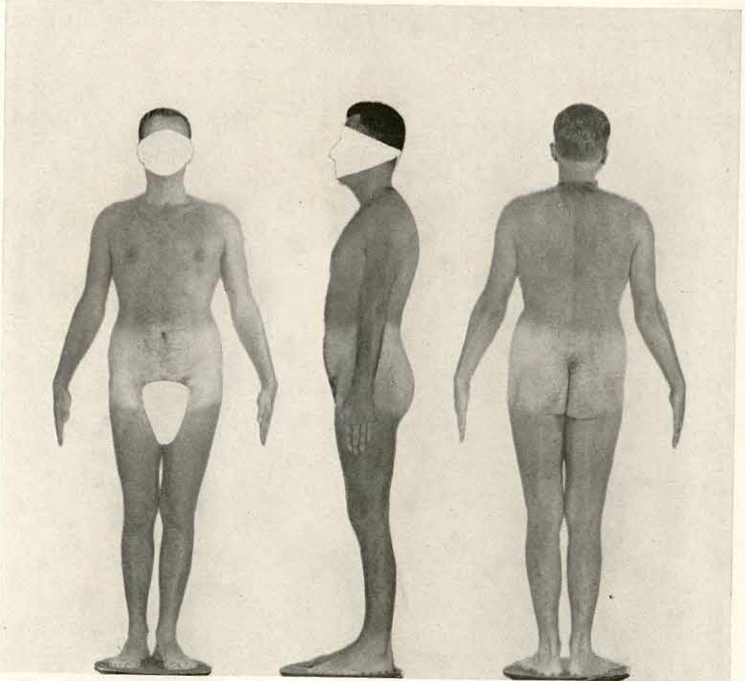


No. 1046 *6 1 2* (*5*) 6 1 2–6 2 2 (6 1½ 2) 12.39 at 19
6 2 2, 6 1½ 1½, 6 1½ 2, 6 1½ 2, 6 2 2

612

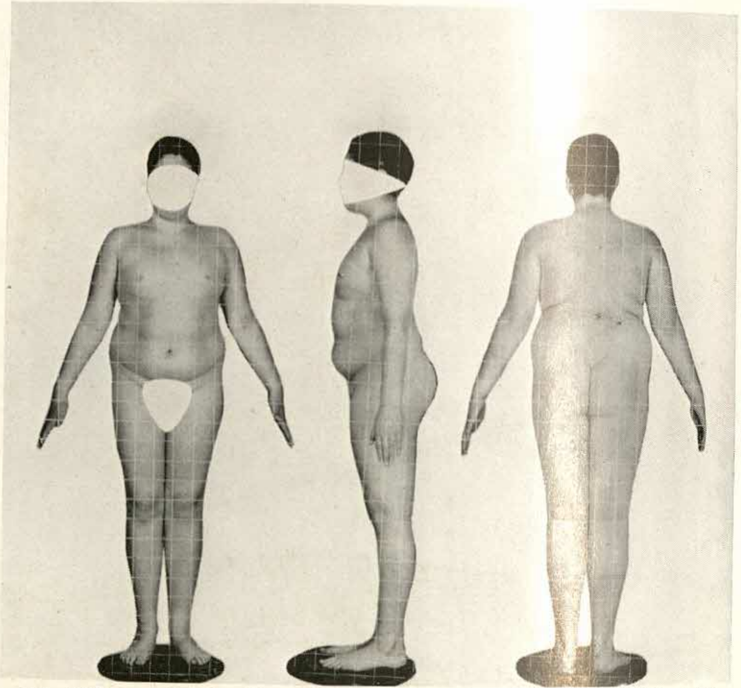


No. 1047 *6 1 2* (*6*) 6 1 2–6 2 3 (6 1½ 2½) 12.45 at 19
6 1 2½, 6 2½ 2, 6 1½ 3, 6 2 2½, 6 1½ 2½

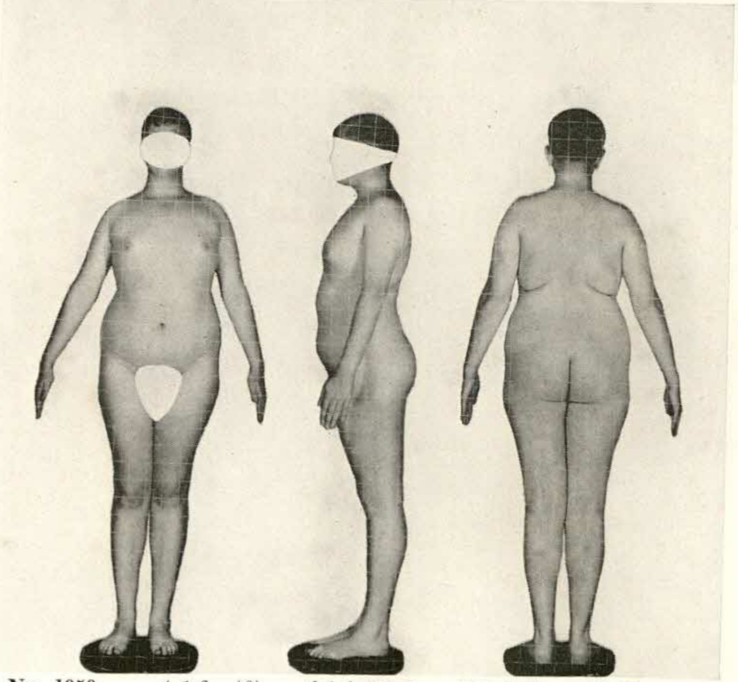


No. 1048 *6 1 2* (*7*) 6 1 2–6 2 3 (6 1½ 2½) 12.29 at 23
5½ 2 2½, 6 2 2½, 6 1½ 3, 6 1½ 2½, 5½ 1½ 3

612

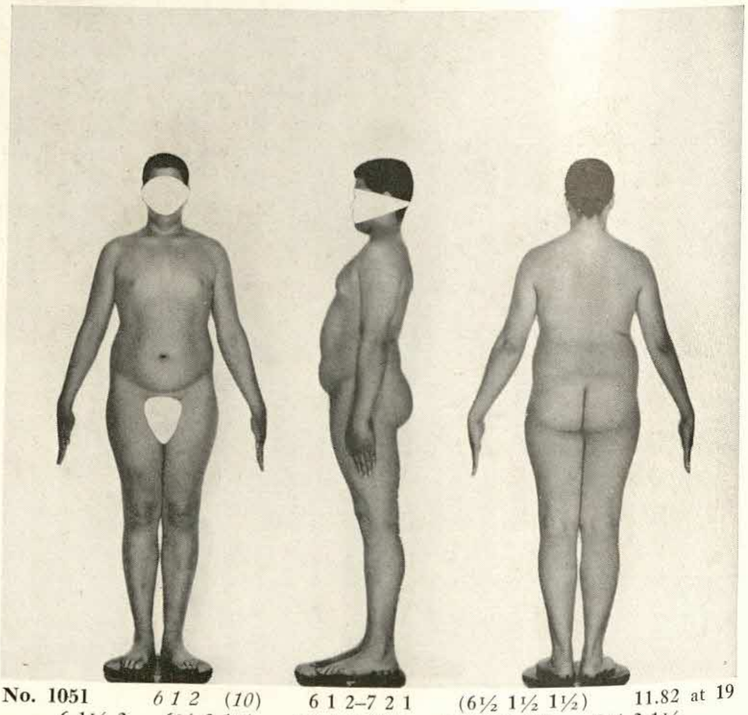


No. 1049 *6 1 2* (*8*) 6 1 2–7 1 1 (6½ 1 1½) 11.93 at 18
6½ 1 2, 6½ 1 1½, 6½ 1 1½, 6½ 1 1½, 7 1 1½



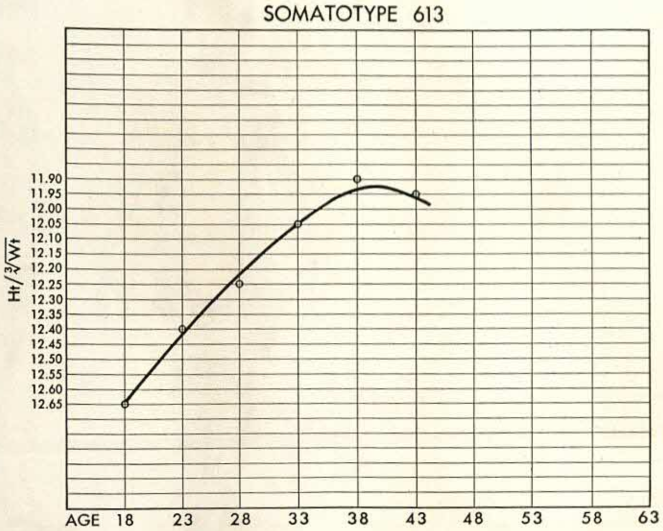
No. 1050 *6 1 2* (*9*) 6 1 2–7 1 2 (6½ 1 2) 12.04 at 18
6 1 2½, 6½ 1 1½, 6 1 3, 6½ 1 1½, 6½ 1 2

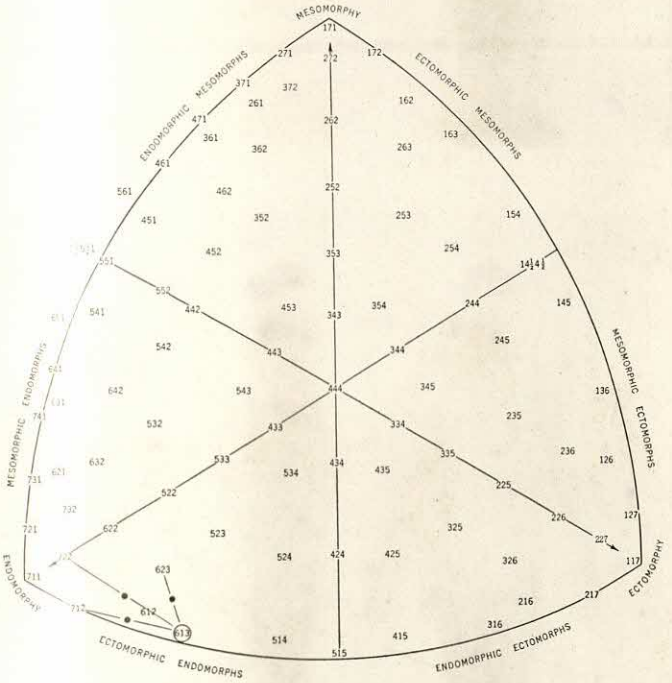
612



No. 1051 *6 1 2* (*10*) 6 1 2–7 2 1 (6½ 1½ 1½) 11.82 at 19
6 1½ 2, 6½ 2 1½, 6½ 1½ 1½, 6½ 1½ 1½, 6½ 2 1½

Somatotype 6 1 3 *(Ectomorphic extreme endomorphy at extreme mesopenia, 10-level.) Penguins. Swimmers even weaker winged than the auks. None of the penguins can fly, and on land these waddling, helpless divers are anybody's prey. Taller, more linear than the auks, penguins literally get too fat to walk. But they still can swim. Nos. 1053–1056.*





Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	209	220	231	243	250	249	..	..	..	..
74	201	212	222	234	240	239	..	..	..	..
73	192	202	212	224	230	229	..	..	..	..
72	185	194	204	215	221	219	..	..	..	..
71	177	187	196	207	212	211	..	..	..	..
70	170	179	188	198	204	203	..	..	..	..
69	163	172	180	190	195	193	..	..	..	..
68	156	165	172	182	187	185	..	..	..	..
67	149	157	165	173	179	177	..	..	..	..
66	142	150	157	166	170	168	..	..	..	..
65	136	143	150	158	163	161	..	..	..	..
64	130	137	143	151	155	154	..	..	..	..
63	124	131	137	144	148	147	..	..	..	..
62	118	125	130	137	141	140	..	..	..	..
61	113	119	124	130	135	134	..	..	..	..

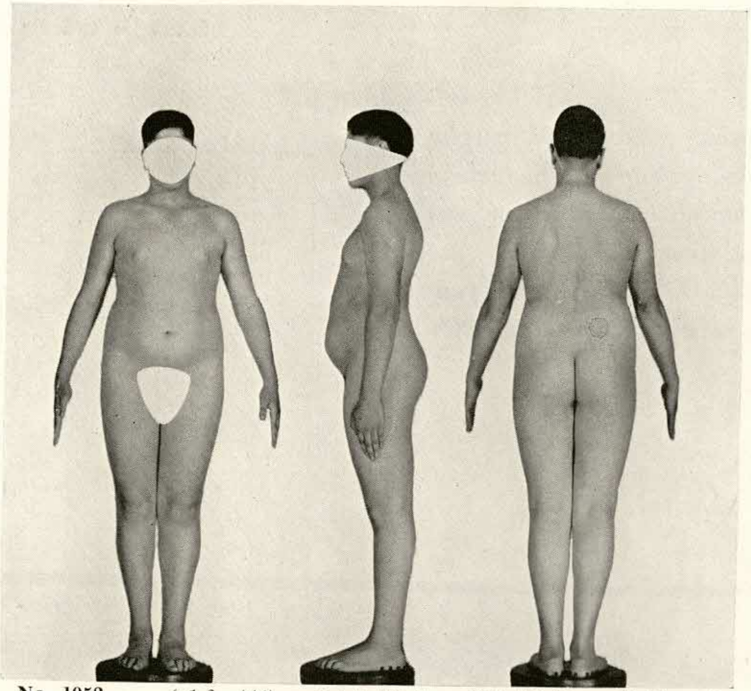
Weight for Age and Height

Rarity 5. Incidence 3 per ten thousand. The two human members of the family of "weak-winged swimmers," the 6 1 2 and 6 1 3, are rarely seen in the ordinary run of a population, but they are easy to recognize when you do see them. The first hallmark is of course the endomorphy. They will float in water almost like a piece of butter. Next, look for the excessively weak arms, which are inclined to be "loose-jointed" or hyper-extensible like many female arms. There is also a strong inclination toward weakness of the knee joint and the associated "knock knee" characteristic by which extreme mesopenes are frequently recognized.

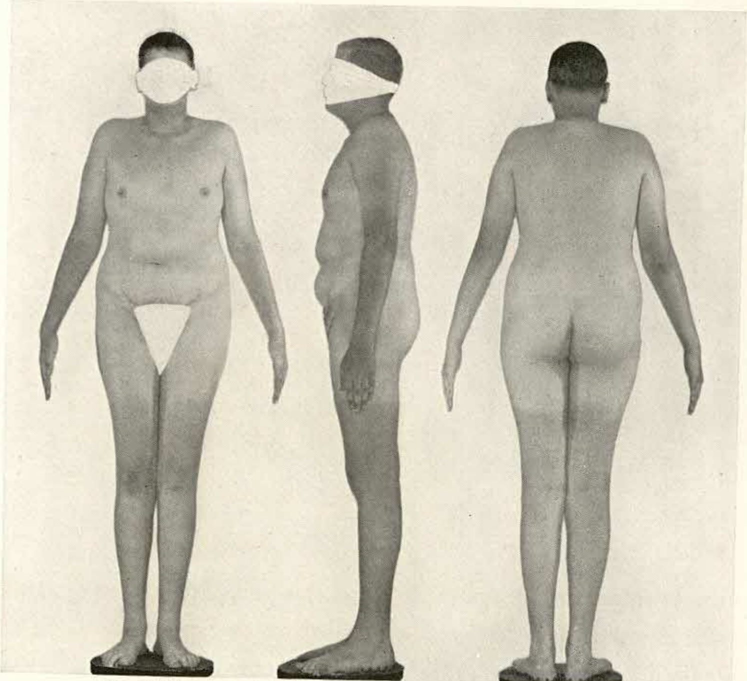
If you have access to an active endocrine clinic, make it a point to observe closely those cases diagnosed Froehlich syndrome, or "Froehlich tendency." Virtually all of these will be mesopenes, and many of them endomorphs. The endocrine clinics are gathering places of the down under somatotypes. The mothers bring them in to have them made into lean mesomorphs, and the gonadal hormones, judiciously administered, do speed up the sprouting of pubic hair and some other growth processes. This may sometimes temporarily simulate a more mesomorphic pattern. However, the individual returns to the normal course for his somatotype whenever his full growth has been reached, or when the treatment is discontinued.

The thing to remember about the human weak-winged swimmers is that they love the water and can swim. Water will sometimes do more for them than all the medical wisdom that money can buy.

Our nutrition curves indicate that the 6 1 2 is perhaps a little more viable and does a little better than the 6 1 3, as the 5 1 4 does better than the 5 1 5.

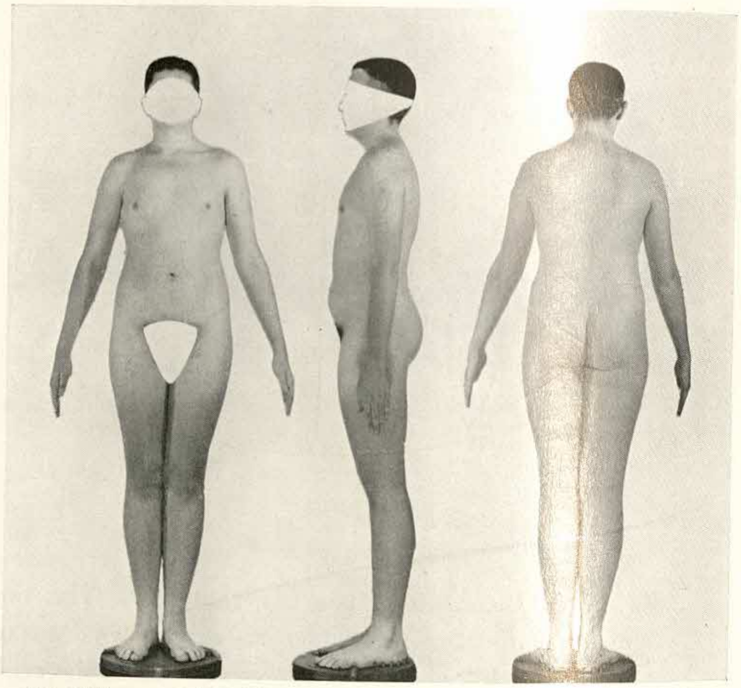


No. 1052 *6 1 2* (*11*) 6 1 2–7 2 2 (6½ 1½ 2) 11.91 at 19
6 1½ 2, 6 1½ 2, 6½ 2 2, 6½ 1½ 2, 7 2 2

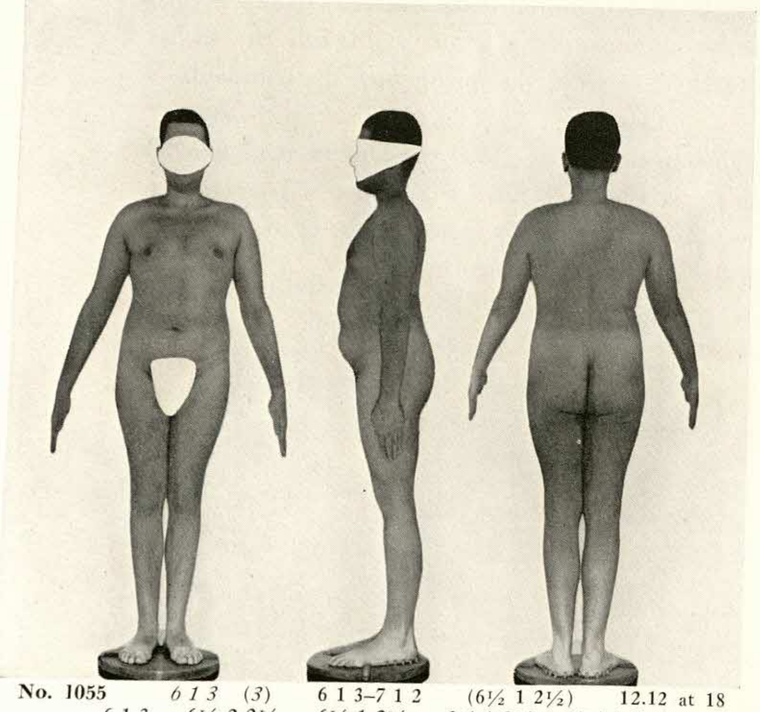


No. 1053 *6 1 3* (*1*) 6 1 3–6 1 3 12.45 at 21
6 1½ 2½, 6 1 3, 6 1 3, 6 1 3, 6 1 3½

613

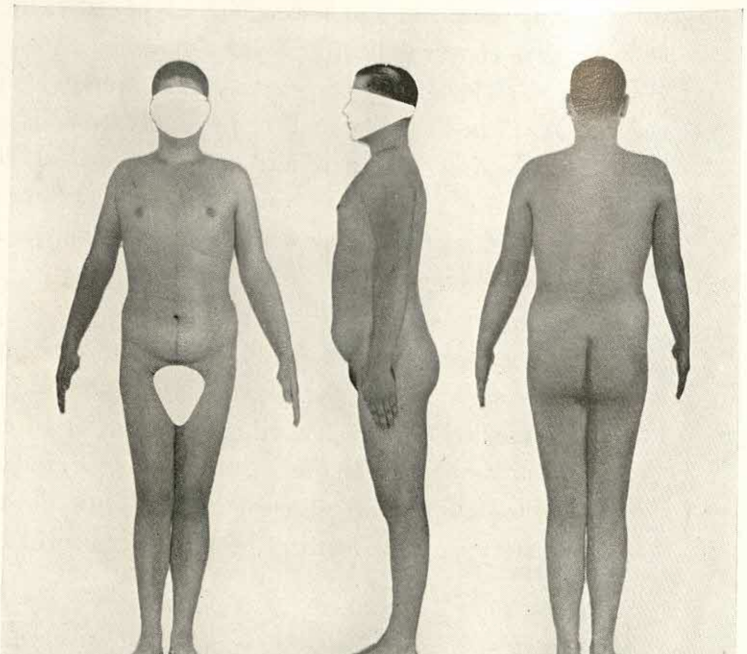


No. 1054 *6 1 3* (*2*) 6 1 3–6 2 3 (6 1½ 3) 12.51 at 19
6 1½ 3, 6 1½ 3, 6 1 3, 6 1½ 3, 6½ 1½ 2½



No. 1055 *6 1 3* (*3*) 6 1 3–7 1 2 (6½ 1 2½) 12.12 at 18
6 1 3, 6½ 2 2½, 6½ 1 2½, 6½ 1 2½, 6½ 1 3

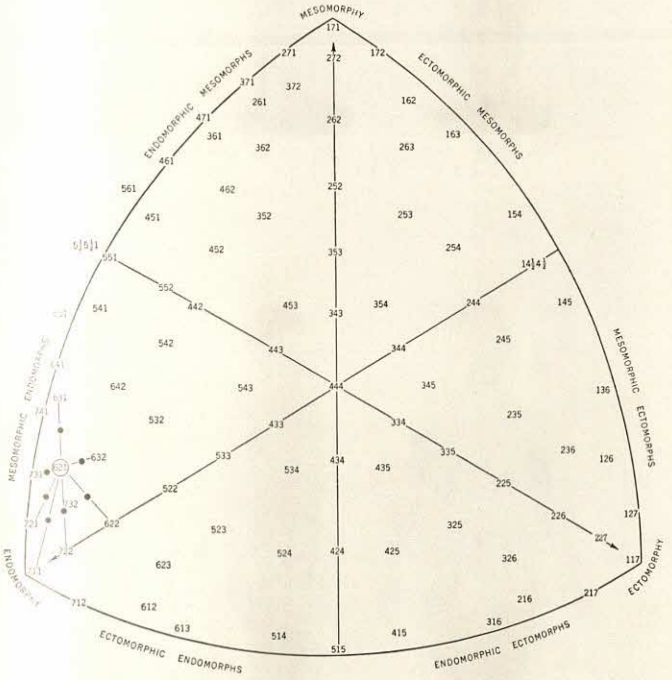
613



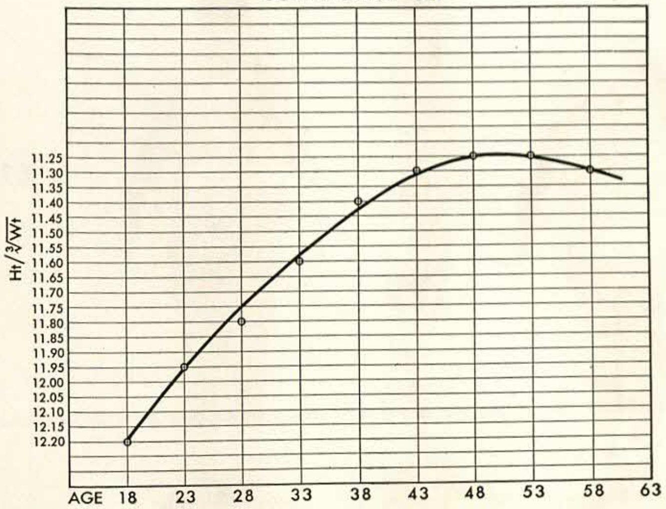
No. 1056 *6 1 3* (*4*) 6 1 3–7 2 2 (6½ 1½ 2½) 12.01 at 19
6½ 1½ 2, 6½ 1½ 2½, 6½ 2 2, 6½ 1½ 2½, 6½ 1½ 2½

36. SEALS

Somatotype 6 2 1 *(Mesomorphic extreme endomorphy at extreme ectopenia, 9-level.) The little harbor seal. Smallest, most compact, shortest limbed of the seals. Nearly defenseless on land, he does have teeth and is a prodigious swimmer. The duckbill platypus, another 6 2 1, can almost rival the seals at swimming. Nos. 1057–1073.*



SOMATOTYPE 621



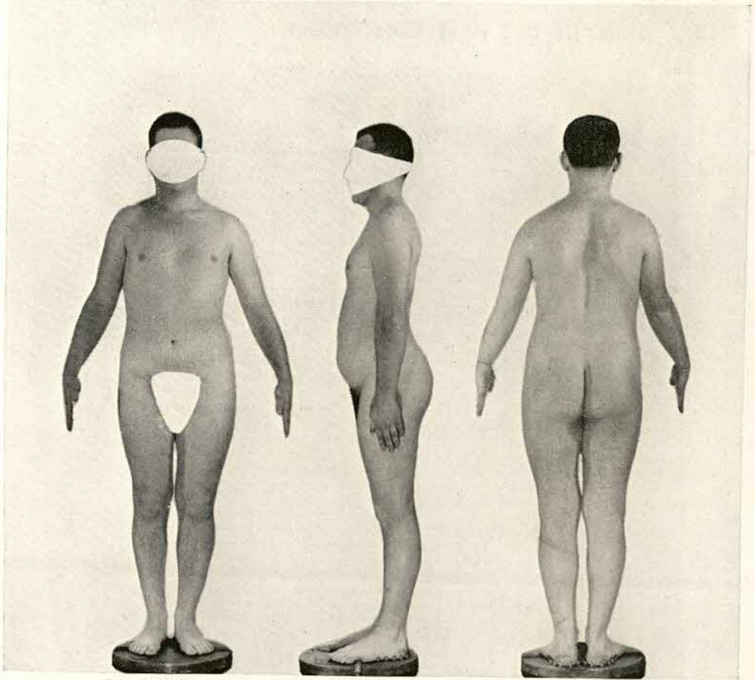
Weight for Age and Height

Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	233	247	257	271	284	293	297	297	293	..
74	223	237	247	260	272	281	286	286	281	..
73	215	228	237	250	261	270	274	274	269	..
72	207	219	227	240	251	259	263	263	259	..
71	198	211	219	230	241	249	252	252	249	..
70	190	202	210	221	231	239	242	242	238	..
69	182	194	202	212	222	229	232	232	229	..
68	174	185	193	203	212	219	222	222	219	..
67	167	177	184	194	203	209	212	212	209	..
66	159	169	176	185	194	200	202	202	200	..
65	152	161	168	177	185	191	193	193	190	..
64	145	154	160	169	176	182	184	184	182	..
63	138	147	153	161	168	174	176	176	174	..
62	132	140	146	153	160	166	168	168	166	..
61	125	133	139	146	153	158	160	160	158	..

Rarity 5. Incidence 5 per ten thousand. The first in the series, and the rarest, of the mesomorphic extreme endomorphs. The only mesomorphic endomorph found at the 9-level. Cupid somatotype. The 6 2 1 is soft-round, but he escapes the jellyfishlike shapelessness of the 7 1 1 and has a shapely pneumatic buoyancy suggestive of Cupid. In the female this often passes for comeliness and therefore it may be fortunate that the 6 2 1 occurs more often among women than men.

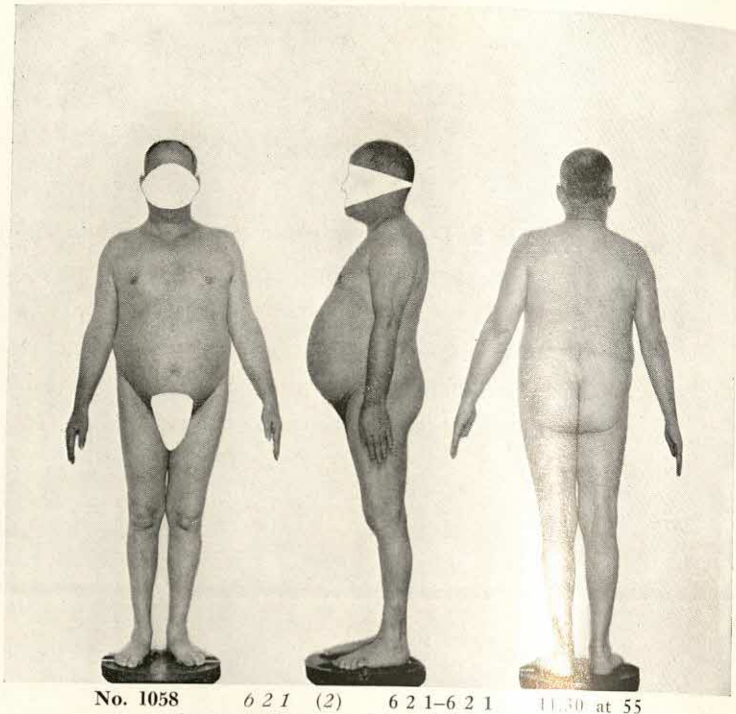
We are now at the level of extreme endomorphy, in the far Southwest, where the dietary problems are very different from those in the Southeast and Northeast. Earlier in the series, the whole Eastern belt of the distribution was referred to as the *carnivorous* belt, or the protein belt. The lean ectomorphs are great eaters of meat, when they can get it, and for the most part they can eat with impunity, or without any thought about possible weight gain. The rotund endomorphs will usually eat meat too, if it is available, but their preference for meat is decidedly a less insistent one. They are much more omnivorous, with a frequent fondness for comparatively indigestible "roughage," which appears to lend a pleasant sense of fullness to the relatively long and capacious endomorphic gut (see VHP, p. 33).

It would be the common supposition, probably, that the 6 2 1 is fat because he overeats, and that as he grows older the overeating progressively increases. Yet it is a persistent observation that an average 6 2 1 eats far less than an average 1 2 6, and it is probable that this same average 6 2 1 learns to control his eating, as he grows older, more strictly than does the average person. He has to, and he does. In consequence, perhaps, the nutrition curve for this extremely endomorphic somatotype is less steep than that of some others, and the total weight increase during adult life is notably less than that of some of the heavy mesomorphs.

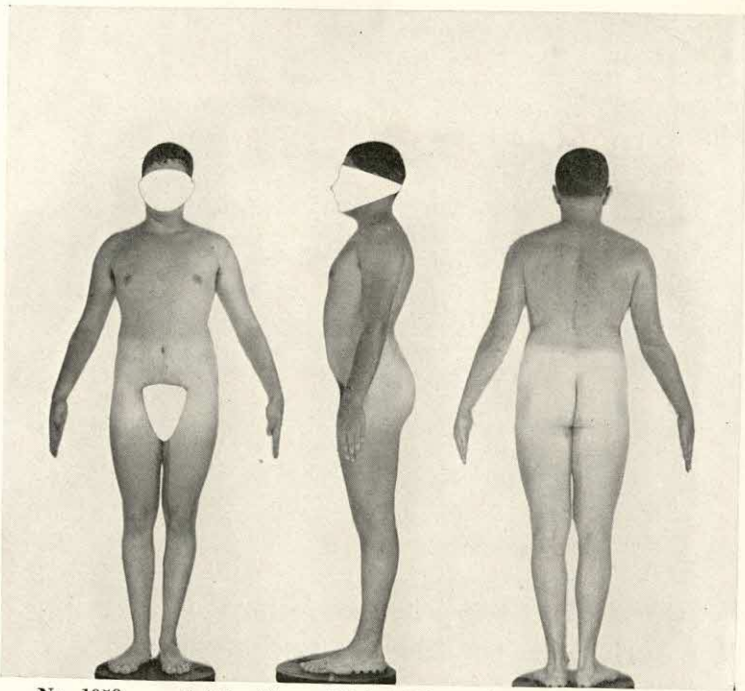


No. 1057 *6 2 1* *(1)* 6 2 1–6 2 1 12.16 at 19
6 2½ 1, 6 2 1½, 6 2 1, 6 2 1, 5½ 2½ 1½

621

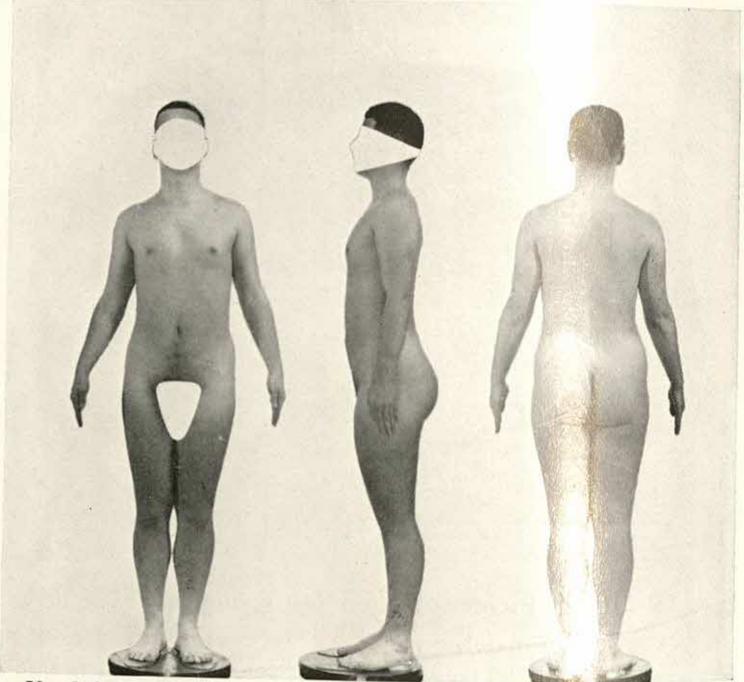


No. 1058 *6 2 1* *(2)* 6 2 1–6 2 1 11.30 at 55
6 2 1, 6 2 1, 6 2 1, 6 2 1, 5 2 2

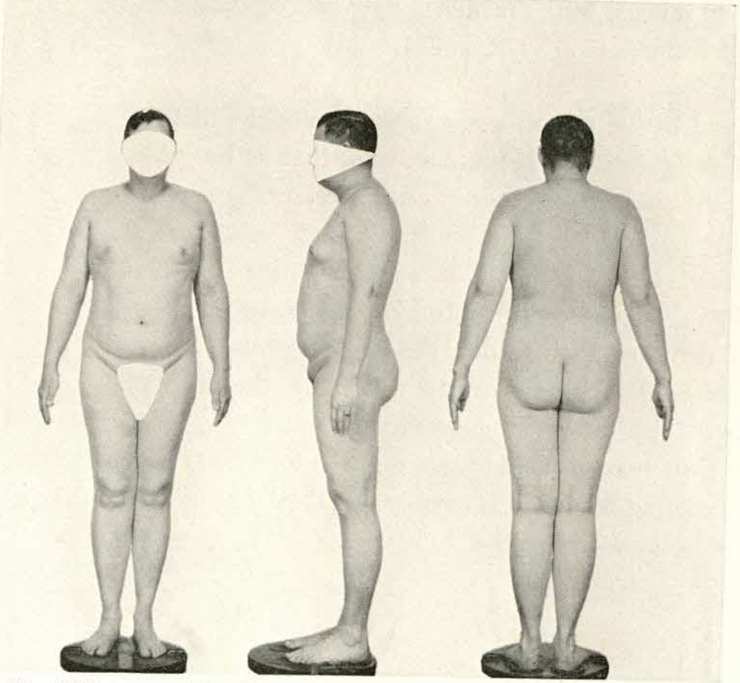


No. 1059 *6 2 1* *(3)* 6 2 1–6 2 2 (6 2 1½) 12.30 at 18
6 2 1½, 6 2 1½, 6 1½ 2, 6 2 1½, 6 1½ 2

621

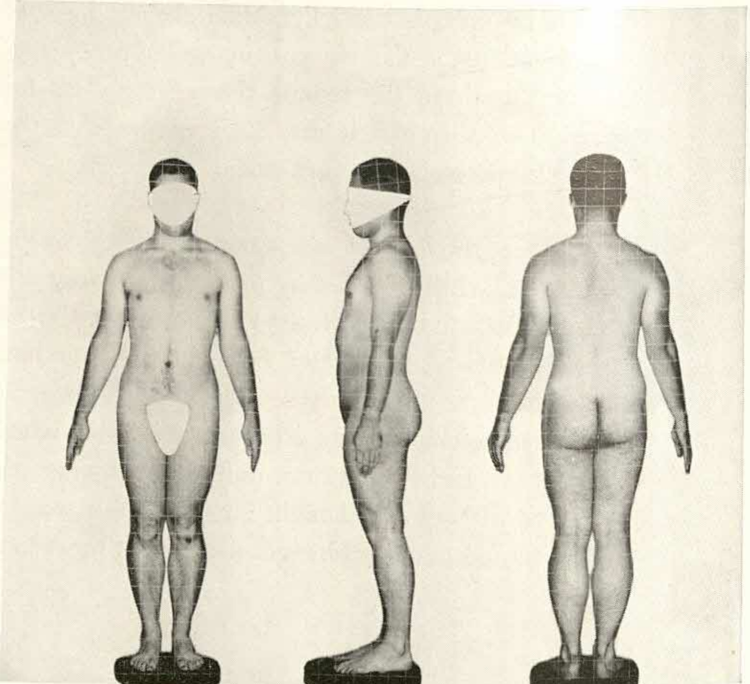


No. 1060 *6 2 1* *(4)* 6 2 1–6 2 2 (6 2 1½) 12.27 at 18
5½ 2 2, 6 2 1½, 6 2 1½, 6 2 2, 6½ 2 1

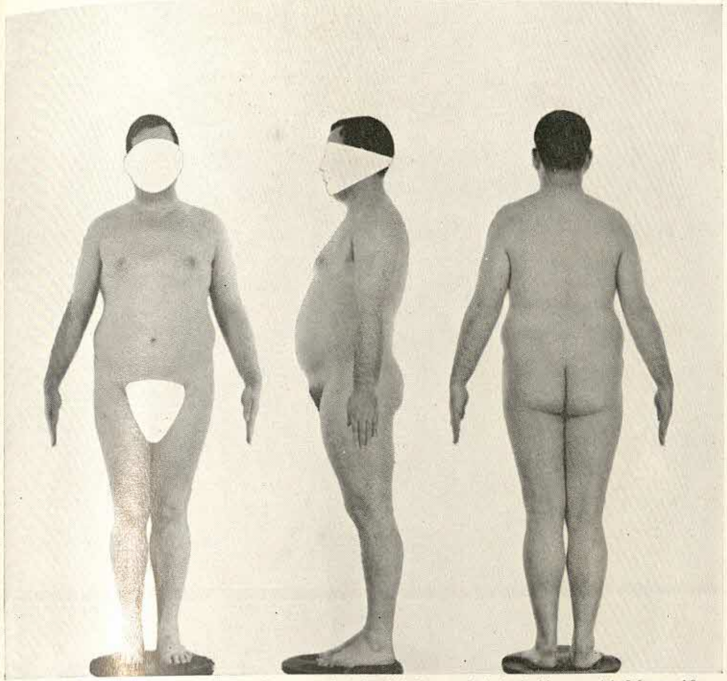


No. 1061 *6 2 1* *(5)* 6 2 1–6 2 2 (6 2 1½) 11.65 at 33
5½ 2 1½, 6 2 1½, 6 2 1½, 6 2½ 1½, 6 2 1½

621

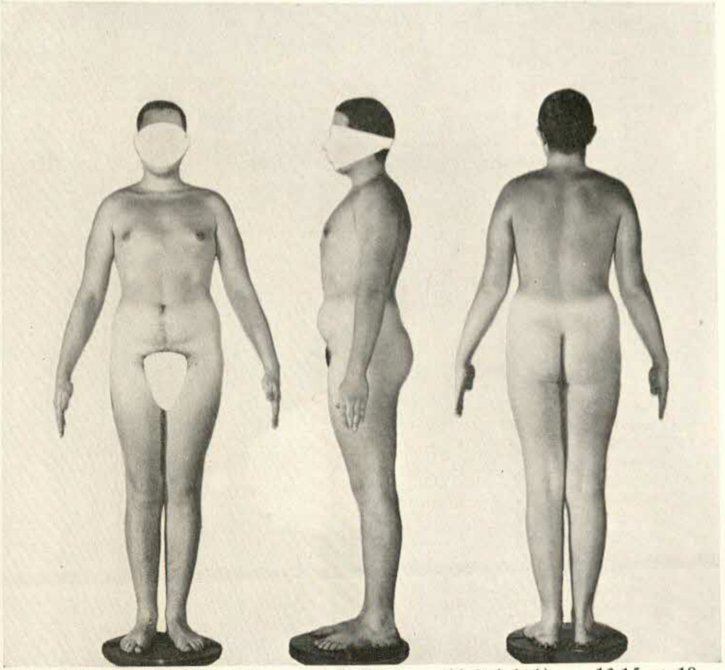


No. 1062 *6 2 1* *(6)* 6 2 1–6 3 1 (6 2½ 1) 12.10 at 18
6 3 1, 6 3 1, 6 2 1½, 6 2 1½, 6 3½ 1

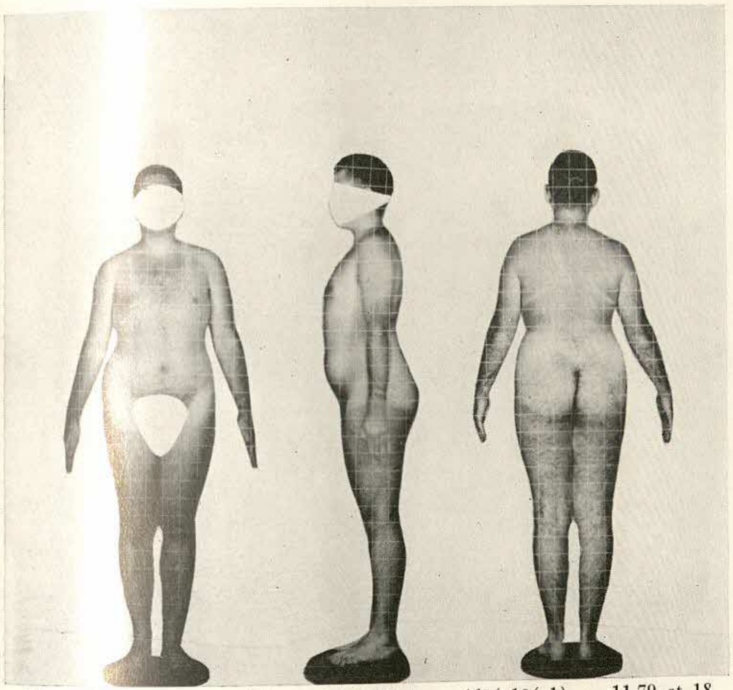


No. 1063 *6 2 1* (*7*) 6 2 1–6 3 1 (6 2½ 1) 11.26 at 40
6 2½ 1, 6 2½ 1½, 6 3 1, 6 2½ 1, 6 3 1

621

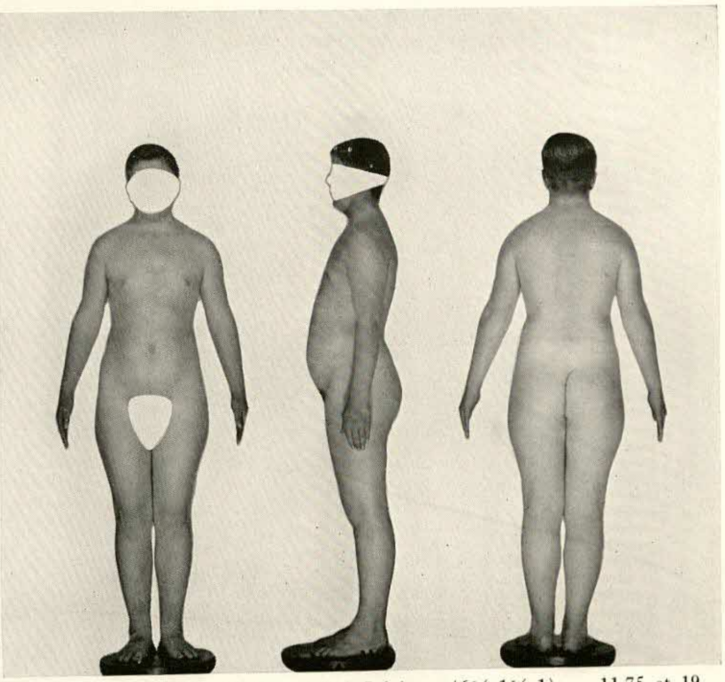


No. 1064 *6 2 1* (*8*) 6 2 1–6 3 2 (6 2½ 1½) 12.15 at 19
6 2 1½, 6 2½ 1½, 6 2½ 2, 6 2½ 1½, 6 2½ 1½

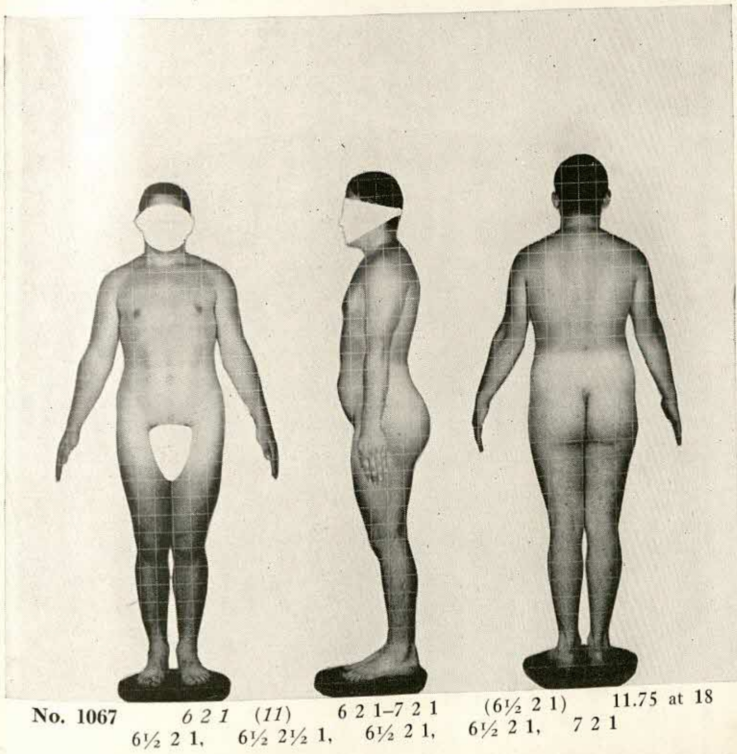


No. 1065 *6 2 1* (*9*) 6 2 1–7 1 1 (6½ 1½ 1) 11.79 at 18
6 2 1, 6½ 2 1, 6 1½ 1½, 6½ 1½ 1, 6½ 1½ 1½

621

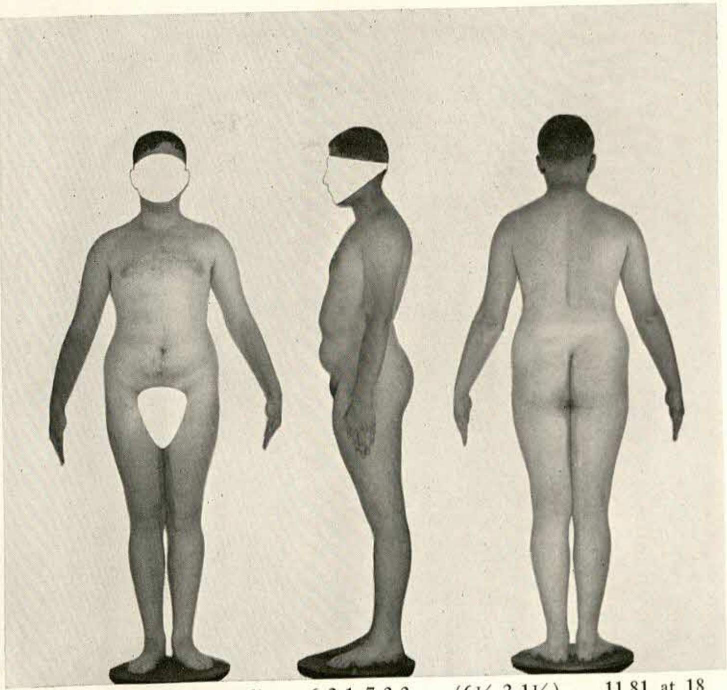


No. 1066 *6 2 1* (*10*) 6 2 1–7 1 1 (6½ 1½ 1) 11.75 at 19
6½ 2 1, 6 1½ 1½, 6½ 1½ 1, 6½ 1 1½, 6½ 2 1

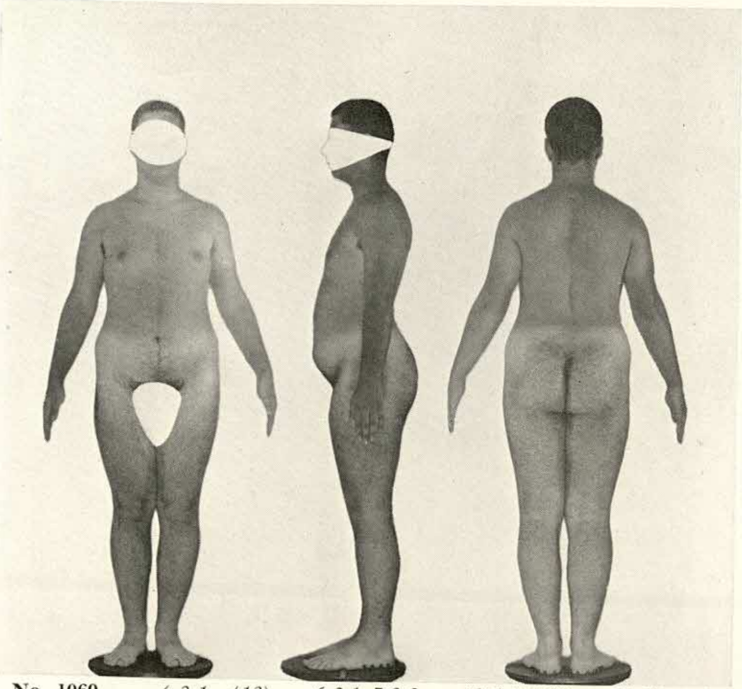


No. 1067 *6 2 1* (*11*) 6 2 1–7 2 1 (6½ 2 1) 11.75 at 18
6½ 2 1, 6½ 2½ 1, 6½ 2 1, 6½ 2 1, 7 2 1

621

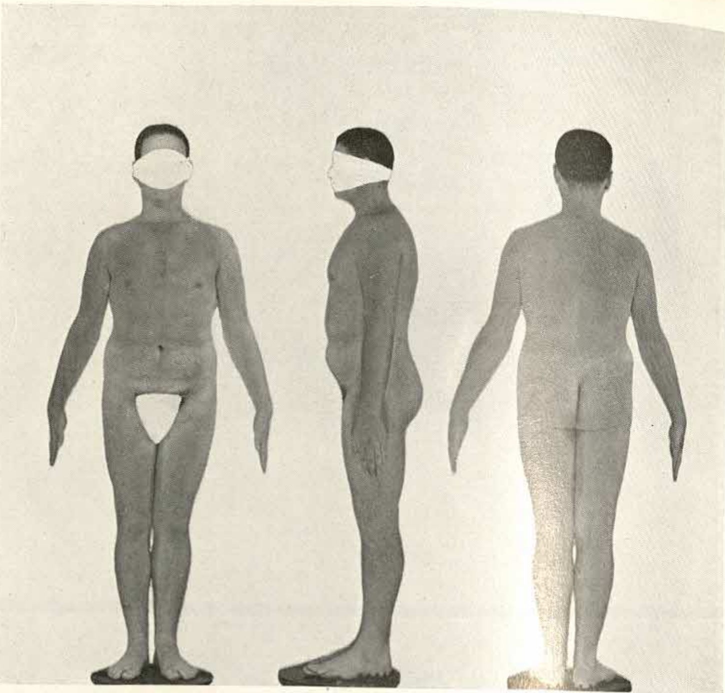


No. 1068 *6 2 1* (*12*) 6 2 1–7 2 2 (6½ 2 1½) 11.81 at 18
6½ 2 1½, 6½ 2 1½, 6½ 2 1½, 6½ 2 1½, 6½ 2 1½

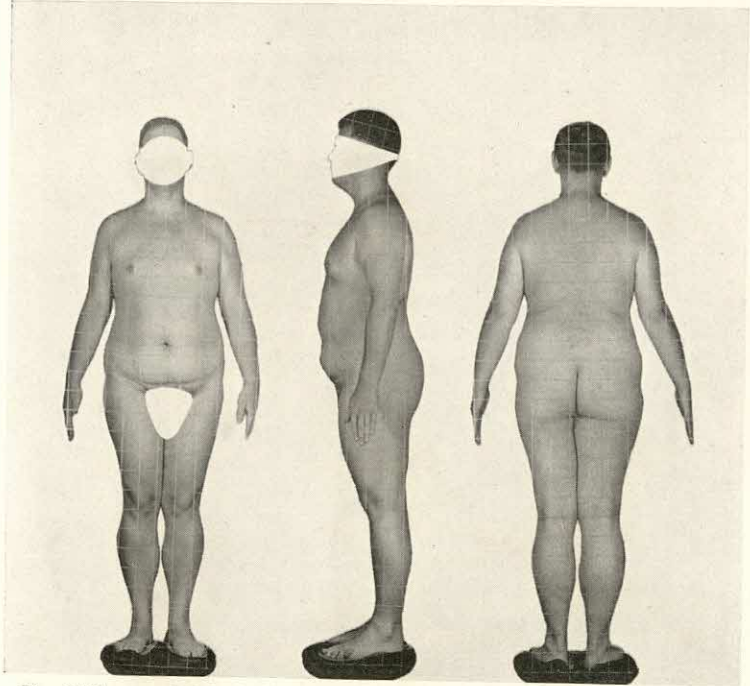


No. 1069 *6 2 1* (*13*) 6 2 1–7 2 2 (6½ 2 1½) 11.67 at 20
6½ 2 1½, 6½ 2 1½, 6½ 2½ 1, 6½ 2 1½, 7 2 1

621

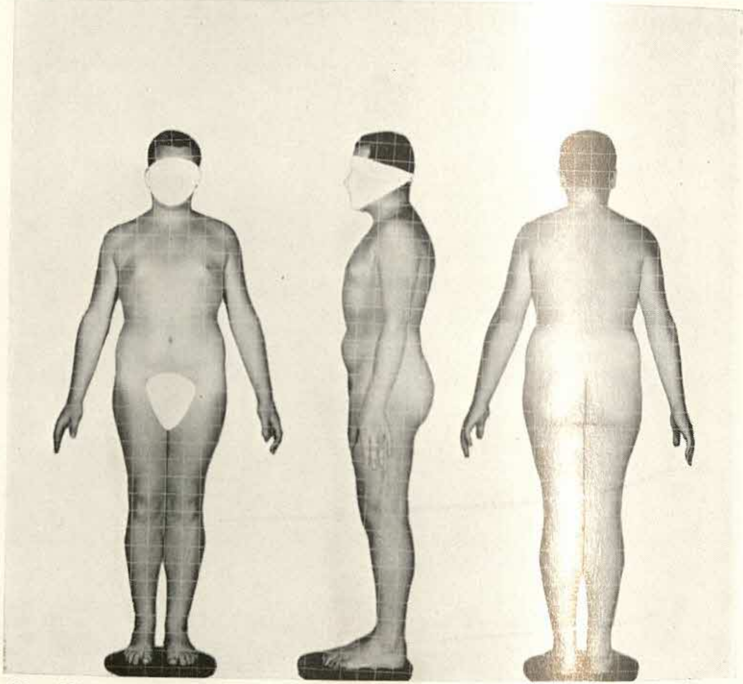


No. 1070 *6 2 1* (*14*) 6 2 1–7 2 2 (6½ 2 1½) 11.66 at 20
6½ 2 1½, 6½ 2½ 1, 6½ 2½ 1½, 6½ 2 1½, 6½ 2 1½

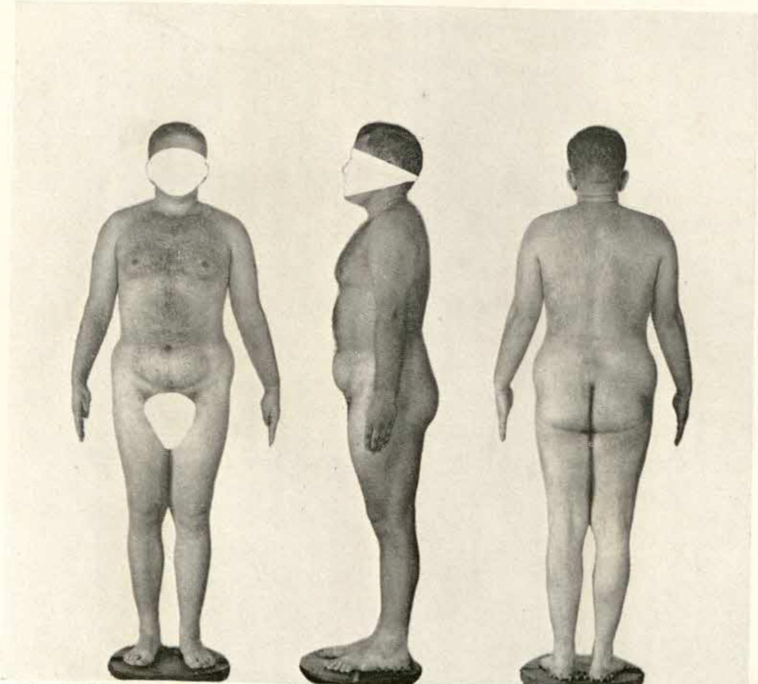


No. 1071 *6 2 1* (*15*) 6 2 1–7 2 2 (6½ 2 1½) 11.15 at 29
6½ 2 1½, 6½ 2 1½, 6½ 2 1½, 6½ 2 1½, 7 3 1

621

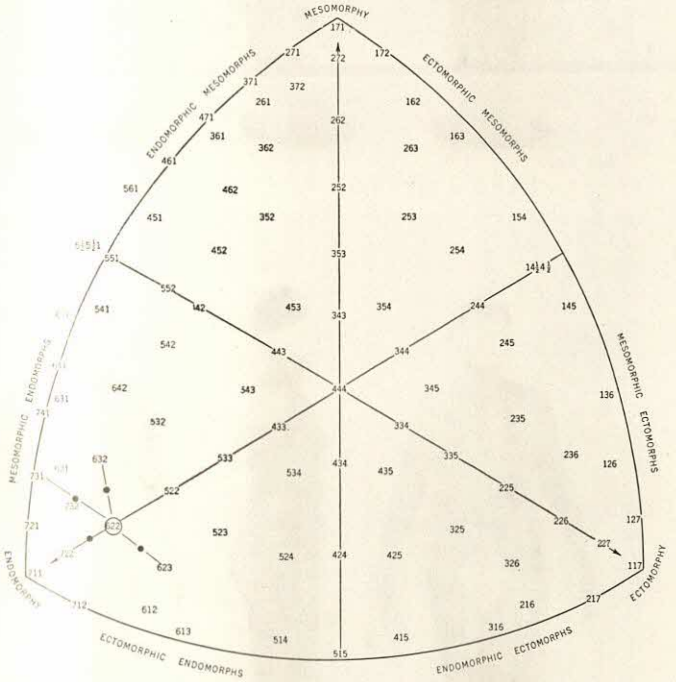


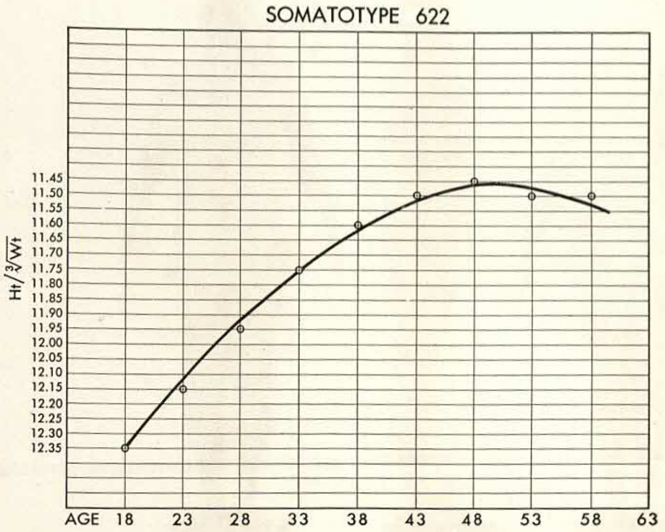
No. 1072 *6 2 1* (*16*) 6 2 1–7 3 1 (6½ 2½ 1) 11.64 at 18
6½ 2½ 1, 6½ 2½ 1, 6 2 2, 6½ 2½ 1, 6½ 2½ 1



No. 1073 *6 2 1* (*17*) 6 2 1–7 3 1 (6½ 2½ 1) 11.27 at 23
6½ 2½ 1, 6½ 2½ 1, 6½ 2½ 1, 6½ 2 1, 6½ 2½ 1½

Somatotype 6 2 2 *(Balanced extreme endomorphy, 10-level.) The fur seals. Longer, more linear and ectomorphic than the little harbor seals; intermediate between the latter and the West Coast lion seals or "sea lions." Nos. 1074–1080.*



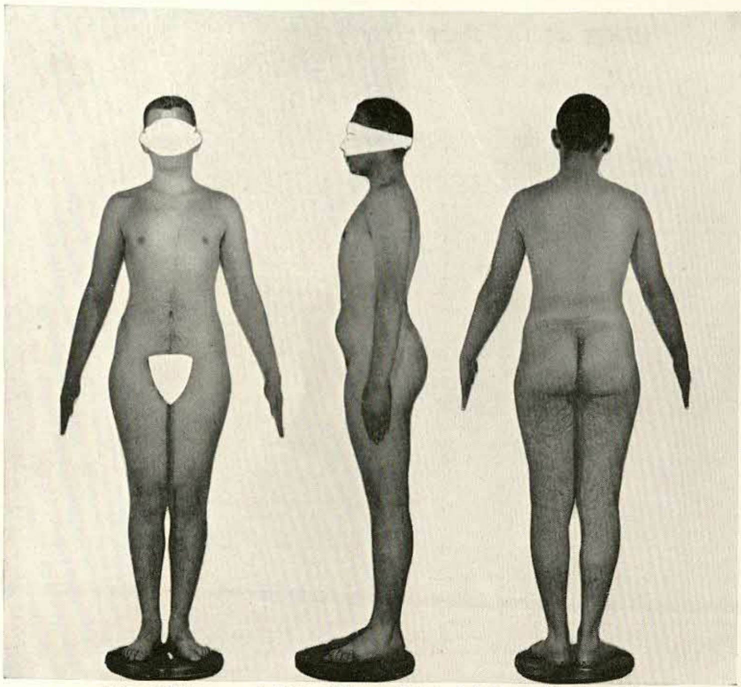


Weight for Age and Height

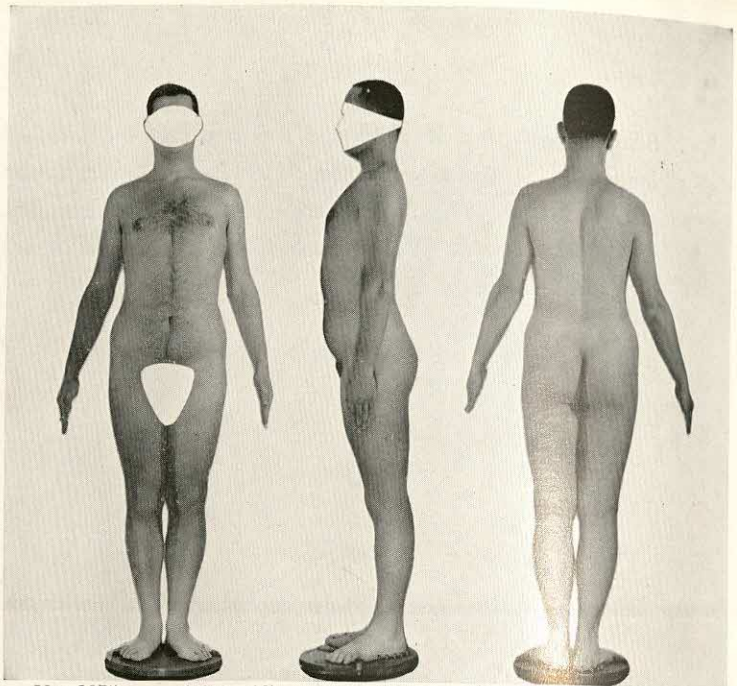
Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	223	235	246	258	268	277	280	278	277	..
74	213	225	236	248	258	266	269	267	266	..
73	205	217	226	238	248	255	258	256	255	..
72	197	208	218	228	238	245	248	246	245	..
71	189	200	209	219	229	235	238	236	235	..
70	182	192	201	211	219	226	228	227	226	..
69	174	184	192	202	210	216	219	217	216	..
68	167	176	184	193	201	207	210	208	207	..
67	159	168	176	185	192	198	200	199	198	..
66	152	161	168	177	183	189	191	190	189	..
65	145	154	161	168	175	180	182	181	180	..
64	138	146	153	161	167	172	174	173	172	..
63	132	140	146	154	159	164	166	165	164	..
62	126	133	139	147	152	156	158	157	156	..
61	120	127	132	140	145	149	151	150	149	..

Rarity 4. Incidence 3 per thousand. In reviewing a series of somatotype photographs, a graduate student at the Constitution Laboratory once remarked, "The 6 2 1 is Cupid, the 6 2 2 is Cupid stretched out, and the 6 2 3 is a sawdust doll—minus some sawdust." This seems to describe the progression fairly well. The 6 2 2 is Cupid stretched out, but since the mesomorphy remains at a constant (and low) level, the 6 2 2 gives the impression of distinctly less bounce and buoyancy than the 6 2 1. Where the latter suggests a newly opened magnolia blossom, the 6 2 2 seems to present the beginnings of a drooping languor, and the 6 2 3 will carry this theme along toward flaccidity.

The nutrition curves of these last two somatotypes are almost identical and the interesting thing about them is that they are less steep than those of some other somatotypes with less endomorphy. Consider, for example, the nutrition curves of the 3 7 1 and 3 7 2 (pp. 185 and 187). Both of the latter gain slightly more poundage during adult life, in proportion to their stature, than do the 6 2 1 and 6 2 2. This is a little more conspicuously true of the 4 5 1 and 4 5 2, still more marked in the case of the 4 6 1 and 4 6 2, and as we review the 5 4 1 and 5 4 2, and then the 5 5 1 and 5 5 2, we find that the progression still holds in the same direction. One thing is clear then. The propensity to add poundage during adult life is not a simple rectilinear correlate of endomorphy. It is necessary also to consider other factors, and one of these is the accompanying strength of the second component. The 6 2 2 has a total strength of 8 in the first two components. At weight gaining the 6 2 2 overmatches its permutant the 2 6 2, but is just about matched by the 3 6 2 and is overmatched by the 3 7 2 or 4 6 2, both of which present a total of 10 in the first two components.

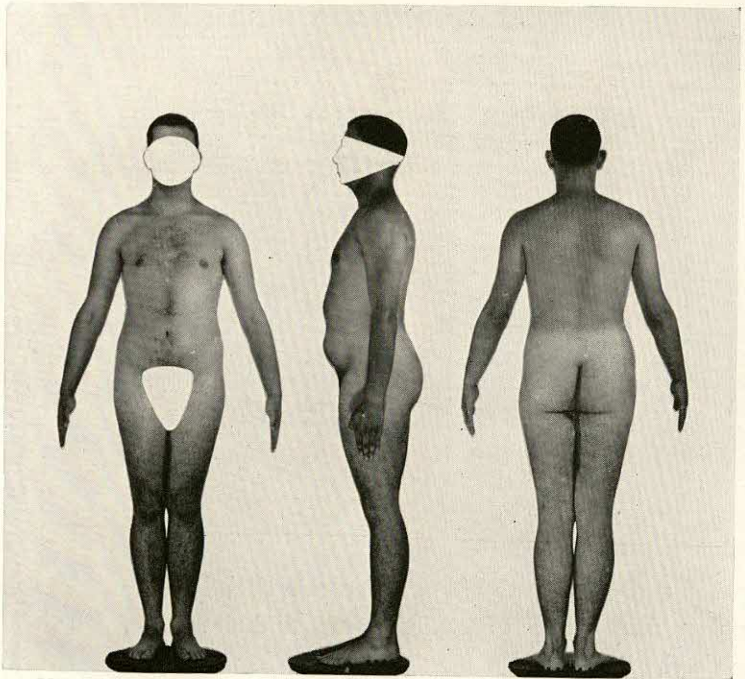


No. 1074 *6 2 2 (1)* 6 2 2–6 2 2 12.36 at 18
6 2 2, 6 2 2, 6 2 2½, 6 2 2, 6 2 2

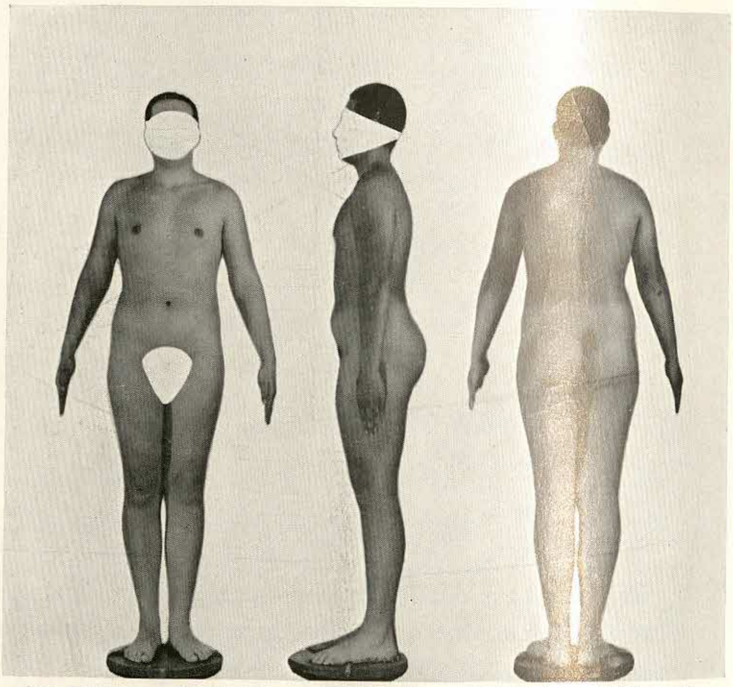


No. 1075 *6 2 2 (2)* 6 2 2–6 2 3 (6 2 2½) 12.42 at 19
5½ 2 2½, 6 2 2½, 6 2 2½, 6 2 2½, 6 3 1½

622

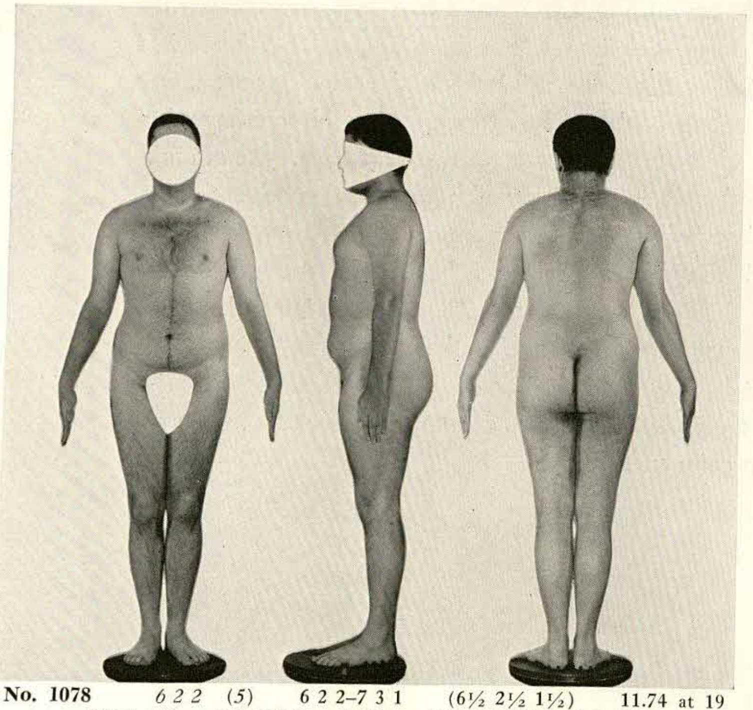


No. 1076 *6 2 2 (3)* 6 2 2–6 3 2 (6 2½ 2) 12.26 at 19
6 2½ 2, 6 2½ 1½, 6 2½ 2, 6 2½ 2, 6½ 2 1½

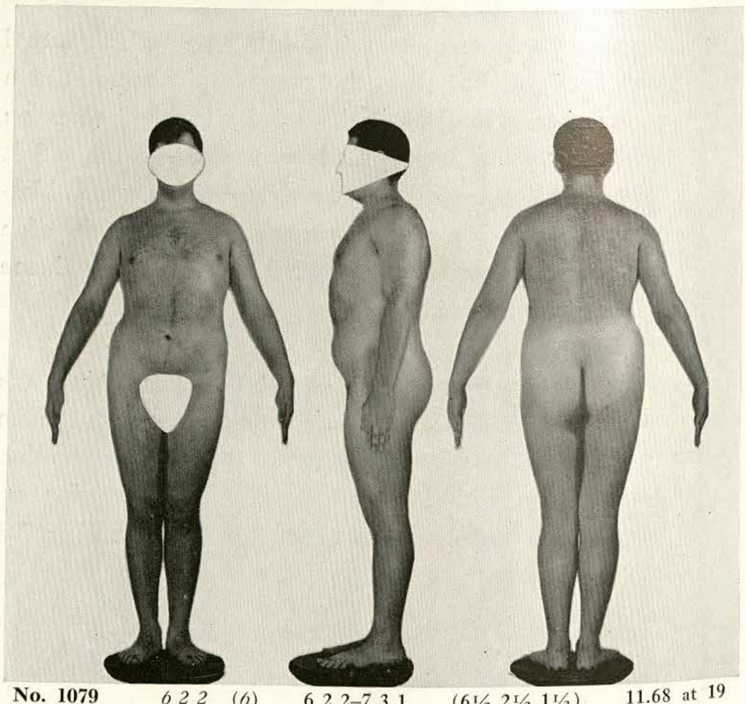


No. 1077 *6 2 2 (4)* 6 2 2–7 2 2 (6½ 2 2) 11.93 at 18
6½ 2 2, 6 2½ 2, 6½ 2 2, 6 2 2, 6½ 2 2

622



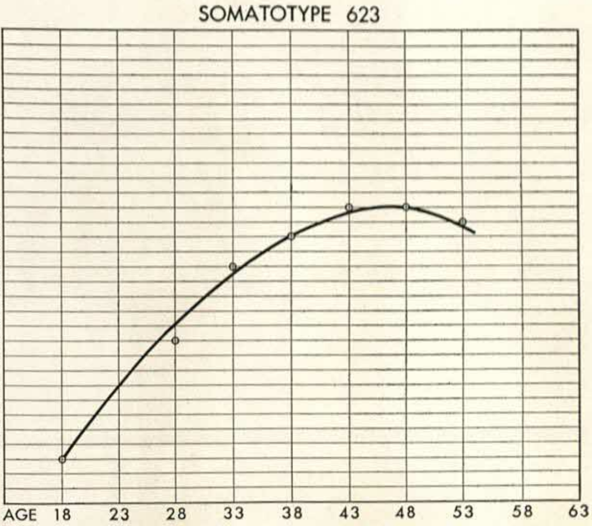
No. 1078 *6 2 2 (5)* 6 2 2–7 3 1 (6½ 2½ 1½) 11.74 at 19
6½ 3 1½, 6½ 2½ 1, 6 2 2, 6½ 2½ 1½, 6½ 2 2



No. 1079 *6 2 2 (6)* 6 2 2–7 3 1 (6½ 2½ 1½) 11.68 at 19
6½ 2½ 1½, 6½ 2½ 1, 6½ 2½ 1½, 6½ 2½ 1½, 6½ 2½ 1½

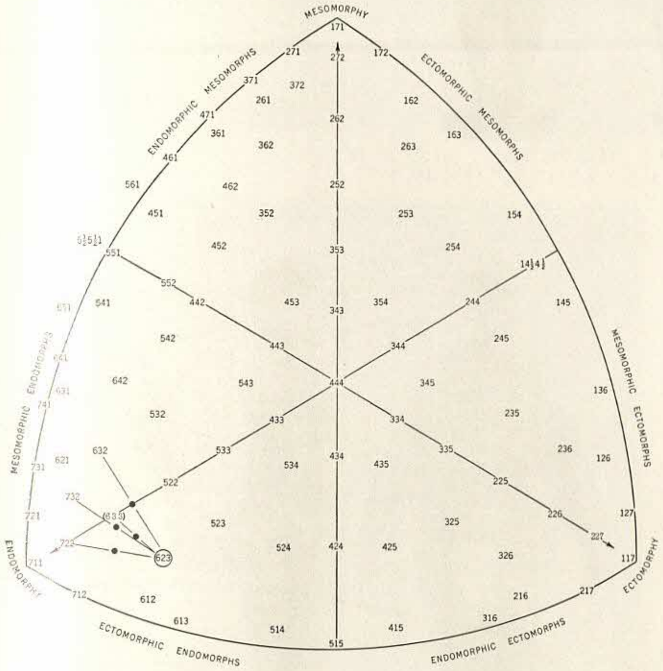
622

Somatotype 6 2 3 *(Ectomorphic extreme endomorphy, 11-level.) The bigger, longer-limbed and longer-necked seals humorously called sea lions and sea elephants. On land they are defenseless, floppy creatures. They live mostly on crustaceans and squid, and are affectionate, like viscerotonic puppies. Nos. 1081–1089.*



Weight for Age and Height

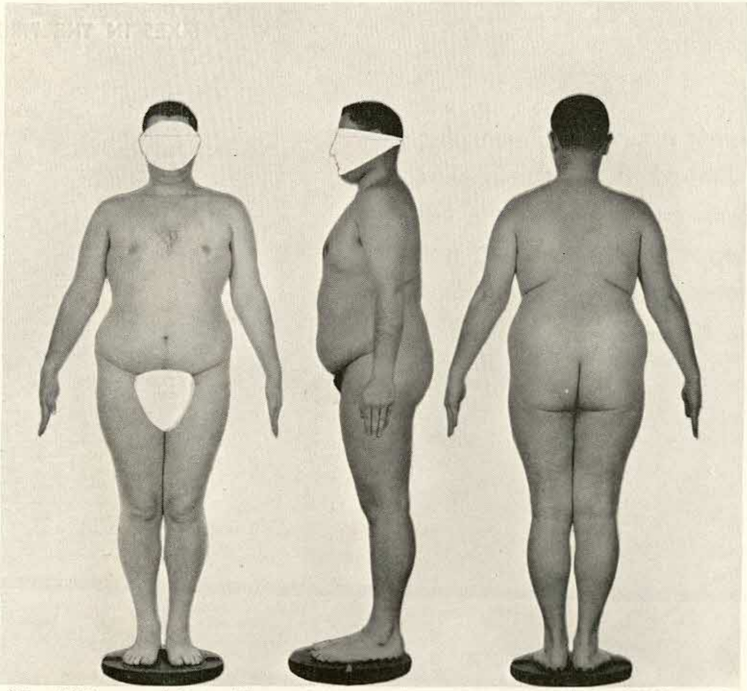
Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	215	227	239	253	259	268	266	264	. .	. .
74	207	218	230	243	249	256	255	253	. .	. .
73	198	209	220	232	239	246	244	243	. .	. .
72	190	201	212	223	229	236	234	233	. .	. .
71	183	193	203	214	221	227	225	224	. .	. .
70	175	185	195	206	212	218	216	215	. .	. .
69	168	177	187	197	203	209	207	206	. .	. .
68	161	169	179	189	194	200	198	197	. .	. .
67	154	162	171	180	186	191	189	188	. .	. .
66	147	155	163	172	178	182	181	180	. .	. .
65	140	148	156	164	169	174	173	172	. .	. .
64	134	141	148	157	162	166	165	164	. .	. .
63	128	134	141	149	154	158	157	156	. .	. .
62	122	128	135	142	147	151	150	149	. .	. .
61	116	122	128	135	140	144	143	142	. .	. .



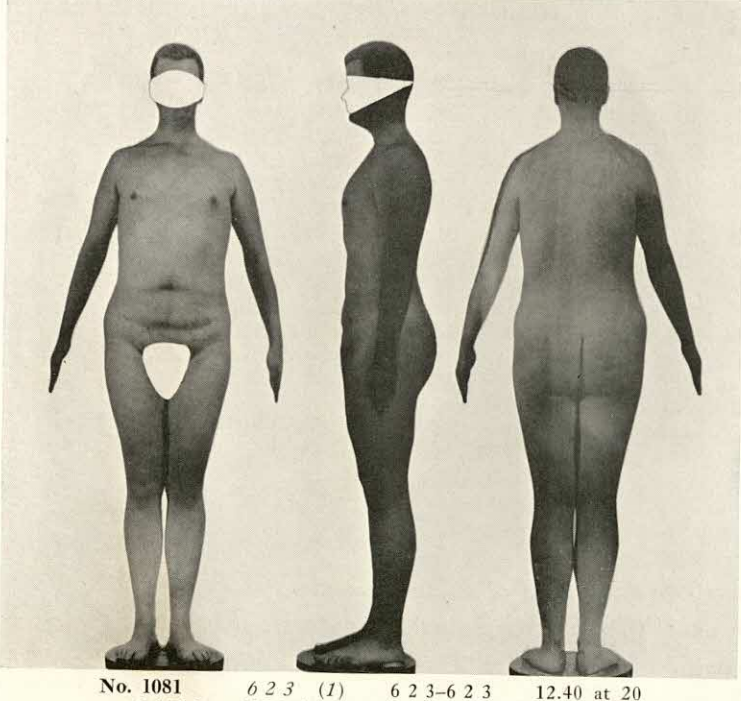
Rarity 4. **Incidence 2 per thousand.** Apparently scarcer than the 6 2 2, and here is another instance where nature's preference for the 11-level is not quite strong enough to overcome the heavy handicap of a mesopenia in the face of a rising total strength in the other two components.

This somatotype might be called "borderline down under." It is a first cousin of the extreme mesopenes and, loaded as it is with both ectomorphy and extreme endomorphy, it has a tendency to sag and collapse. The 6 2 3 suggests one of those precariously overloaded moving vans that used to struggle along country roads before the days of the modern big truck.

Possibly half of the 6 2 3's we have seen present either the clinical picture of the Froehlich syndrome or a tendency toward it. Since this somatotype is from four to twenty times commoner than any of the most extreme mesopenes of the down under fringe, it is quite likely that the 6 2 3 is the somatotype most often seen with the characteristic genital underdevelopment of the Froehlich pattern (*dystrophia adiposogenitalis*). Yet among women the 6 2 3 does not present a comparable pattern. Moreover, in women it is much more common, probably from five to ten times more common. We have an early impression that 6 2 3 women are by no means an infertile group. Perhaps they are not so markedly fertile as the 5 3 3's and 5 4 2's which fall near the center of the female distribution, but almost surely they are more fertile than the female endopenic fringe. In men this fringe is highly fertile territory. In women it might be called the territory of *dystrophia adipopenia genitalis*. There seems to be insufficient endomorphy for facile reproduction.

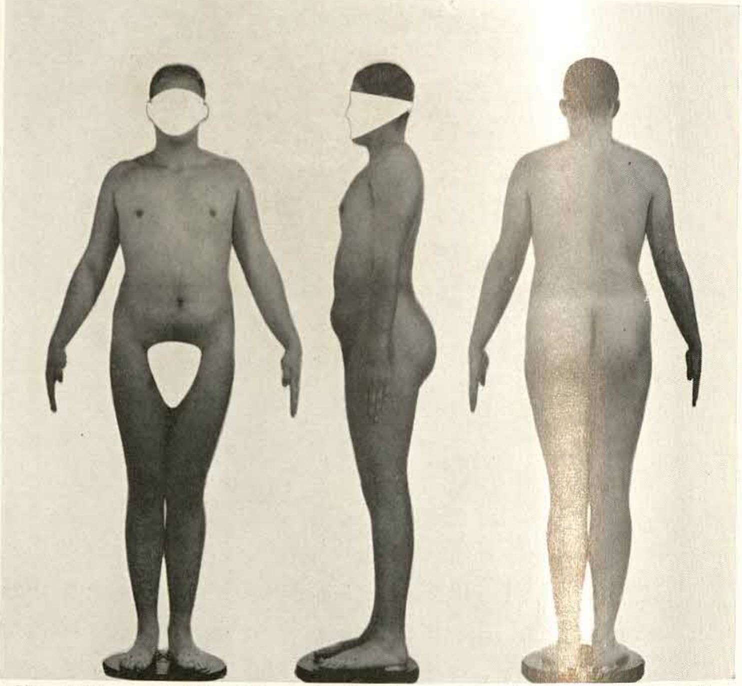


No. 1080 *6 2 2* (*7*) 6 2 2–7 3 1 (6½ 2½ 1½) 11.05 at 29
6½ 2½ 1½, 6½ 2½ 1½, 6½ 2 1½, 6½ 2 1½, 6½ 3½ 1

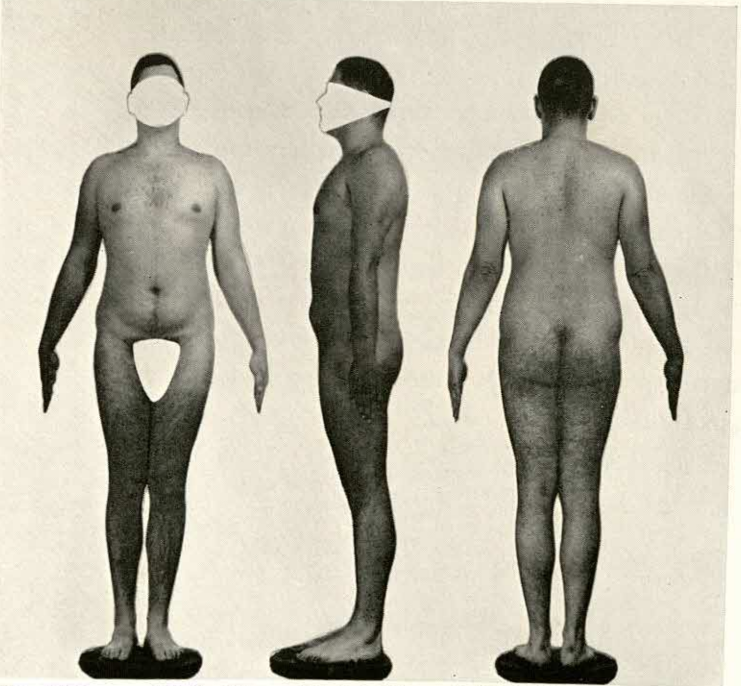


No. 1081 *6 2 3* (*1*) 6 2 3–6 2 3 12.40 at 20
6 1½ 3, 6 2 2½, 6 2 3, 6 2 3, 6½ 2 2½

623

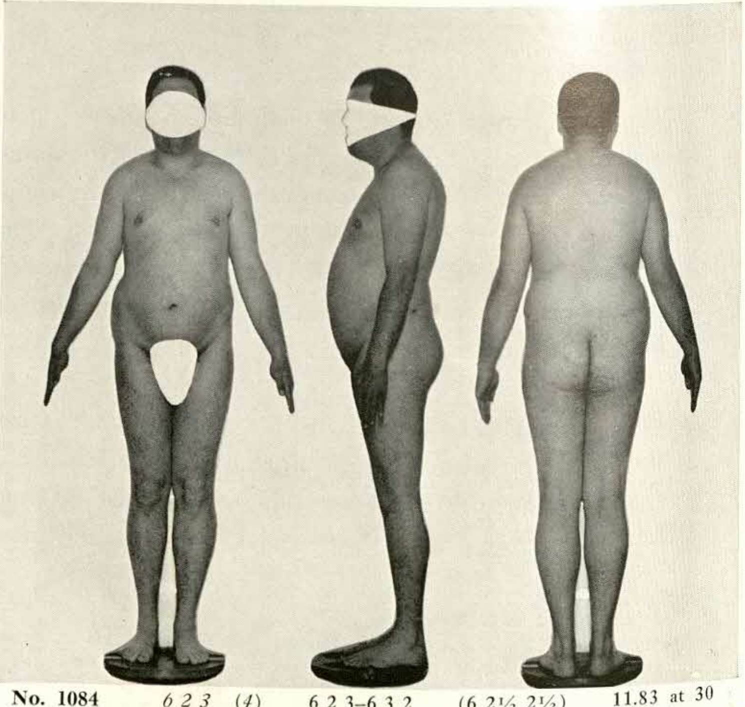


No. 1082 *6 2 3* (*2*) 6 2 3–6 3 2 (6 2½ 2½) 12.20 at 20
6 2½ 2½, 6 2½ 2½, 6 3 2, 6 2½ 2½, 6 3 2½

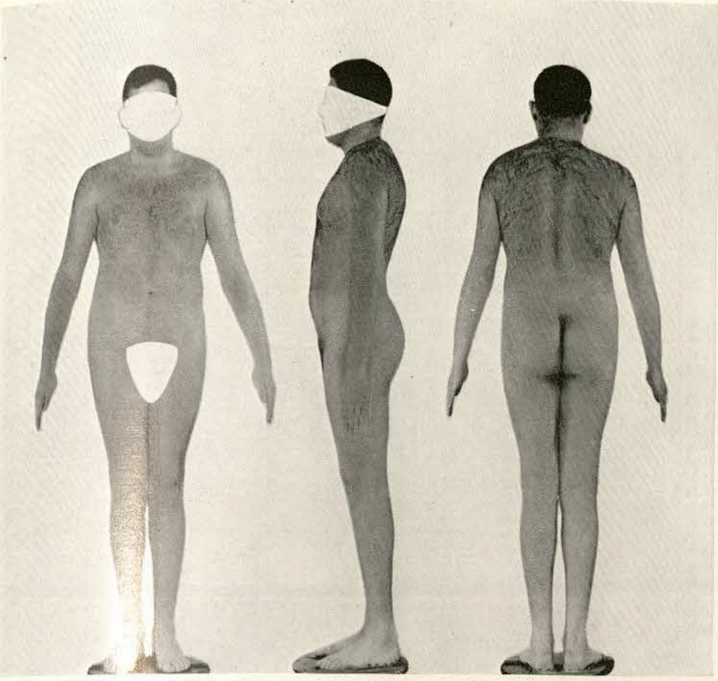


No. 1083 *6 2 3* (*3*) 6 2 3–6 3 2 (6 2½ 2½) 12.13 at 22
6 2½ 2½, 6 2½ 2, 6 2½ 2, 6 2 2½, 6 2½ 2½

623

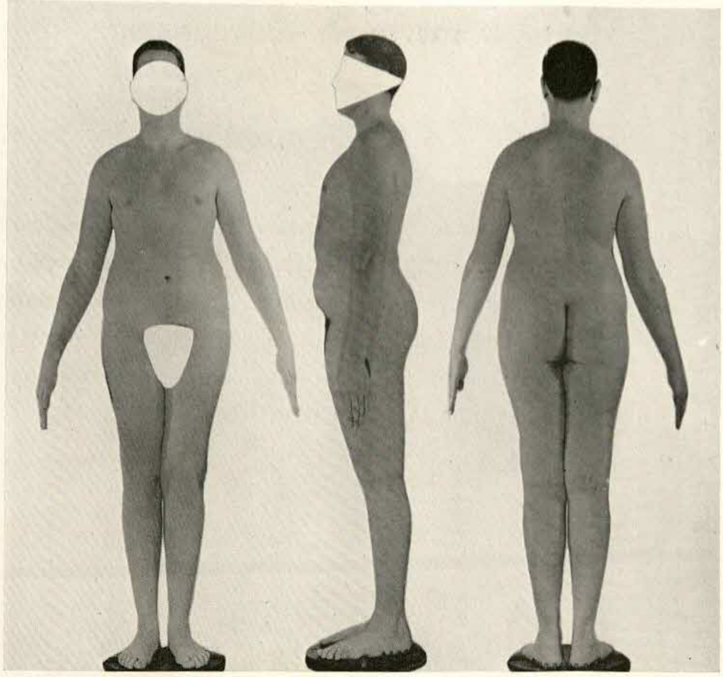


No. 1084 *6 2 3* (*4*) 6 2 3–6 3 2 (6 2½ 2½) 11.83 at 30
6½ 2½ 2, 6 2 2½, 6 2½ 2, 6 2½ 2½, 6 2½ 2½

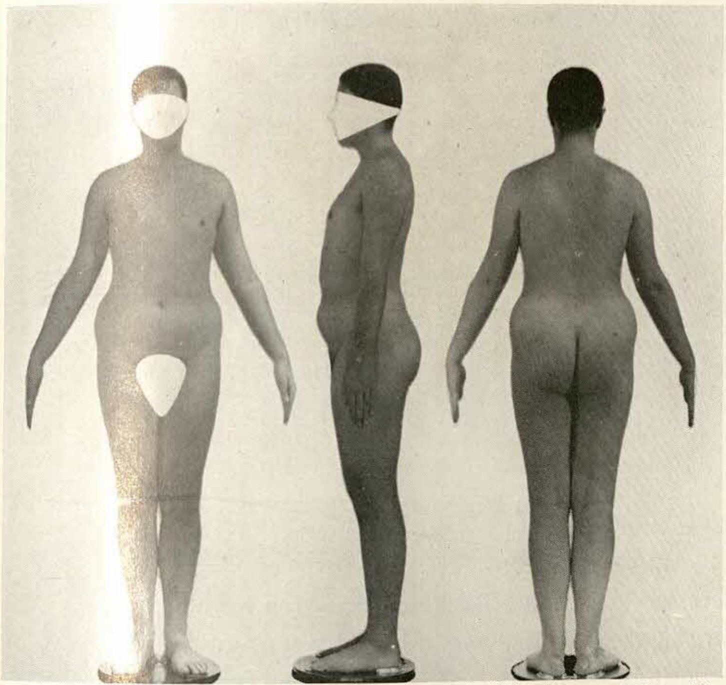


No. 1085 *6 2 3* (*5*) 6 2 3–6 3 3 (6 2½ 3) 12.43 at 18
6 3 2½, 6 2 3, 6 2 3, 5½ 2½ 2½, 5½ 2 3½

623

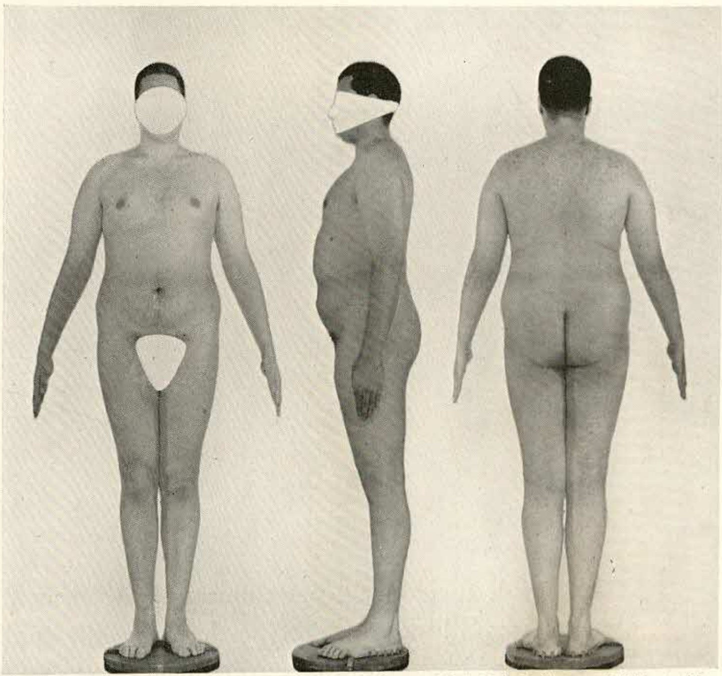


No. 1086 *6 2 3* (*6*) 6 2 3–6 3 3 (6 2½ 3) 12.22 at 22
6 2½ 2½, 6 2½ 3, 6 2½ 3, 6 2½ 3, 6 2½ 2½

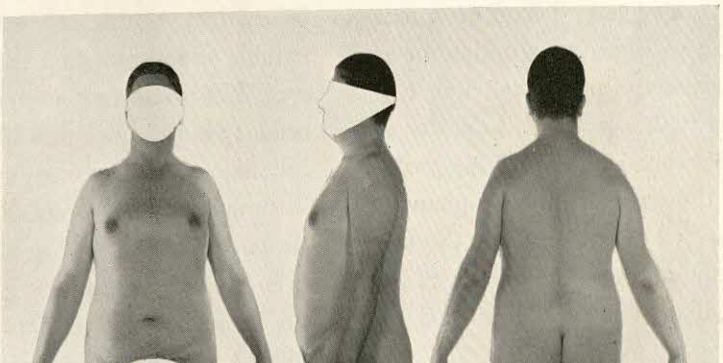


No. 1087 *6 2 3* (*7*) 6 2 3–7 2 2 (6½ 2 2½) 11.97 at 19
6½ 2 2½, 6½ 2 2½, 6½ 2 2½, 6½ 2 2½, 7 2 2

623



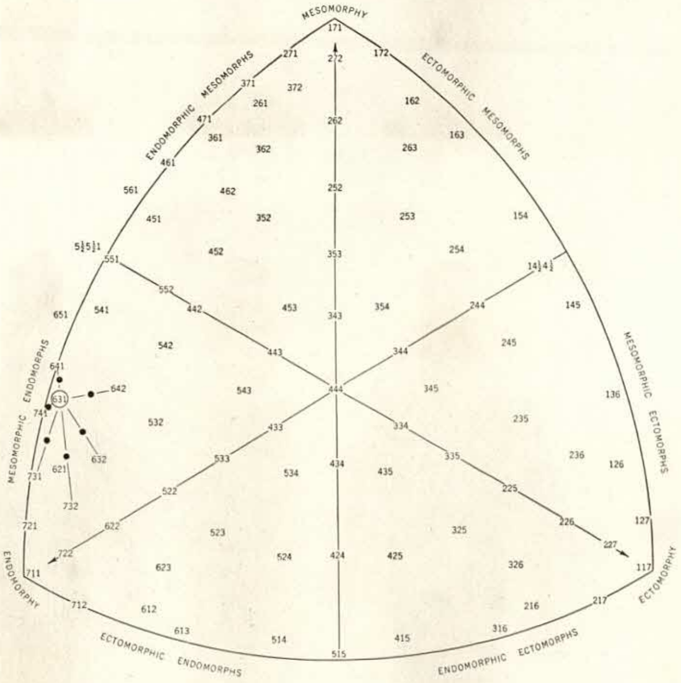
No. 1088 *6 2 3* (*8*) 6 2 3–7 3 2 (6½ 2½ 2½) 11.88 at 19
6½ 2½ 2½, 6½ 2½ 2½, 6½ 2½ 2½, 6½ 2½ 2, 6½ 2½ 2½



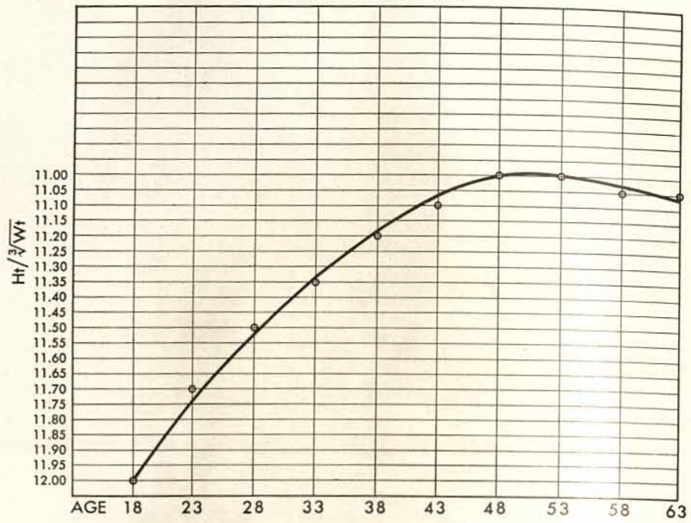
No. 1089 *6 2 3* (*9*) 6 2 3–7 3 2 (6½ 2½ 2½) 11.02 at 30
6½ 2½ 2½, 6½ 2 2½, 6½ 2 2, 6½ 2½ 2½, 6½ 2½ 2

37. PORPOISES

Somatotype 6 3 1 *(Mesomorphic extreme endomorphy at extreme ectopenia, 10-level.) The common porpoise, or dolphin. Another mammal with body remarkably rounded and adapted to an aquatic habitat. Almost neckless. Forelimbs are swimming paddles. More active and muscular than the seals. Nos. 1090–1106.*



SOMATOTYPE 631

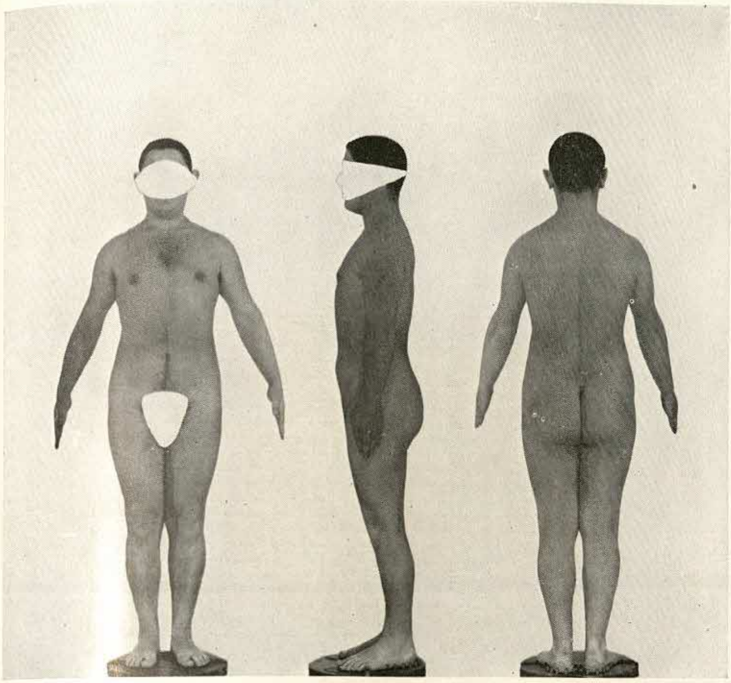


Weight for Age and Height

Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	245	261	276	289	298	307	317	314	311	311
74	234	251	266	277	286	295	303	301	299	298
73	225	241	255	266	274	283	289	288	286	286
72	216	232	245	256	264	272	278	277	275	275
71	207	223	235	246	253	262	267	267	264	263
70	199	214	225	236	243	251	256	256	253	253
69	191	205	216	226	234	241	246	245	243	242
68	183	196	207	216	224	230	235	235	233	233
67	175	187	197	207	214	220	225	225	222	222
66	167	179	188	197	204	210	215	215	212	211
65	159	171	180	188	195	201	206	205	203	203
64	152	163	172	180	186	192	196	196	193	193
63	145	156	164	171	177	183	187	187	185	184
62	138	148	156	163	169	174	179	178	176	176
61	131	141	149	156	161	166	170	169	168	168

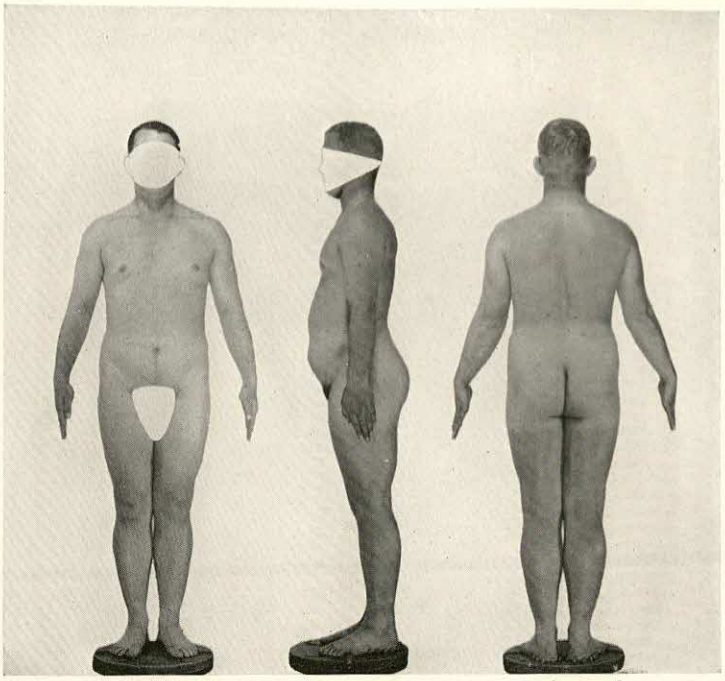
Rarity 4. Incidence 2 per thousand. A far more vigorous, more hearty somatotype than the little cupidlike 6 2 1, and about four times as frequently seen. To study the 6 3 1 in his most natural medium and happiest state, take the subway to New York's Coney Island on a nice hot summer day. There you will observe a million or so people, all in delightful proximity and in fetching costumes. As you first look, it will seem as if a quarter of them must be in the neighborhood of the 6 3 1 somatotype. Pick out a dozen of the pudgiest, most pneumatic but buoyantly active ones, who are most persistently gregarious, most omnipresent, and most in-and-out of the water. Half of your dozen, likely enough, *will* be 6 3 1's.

We are now in the soft-heavy territory of the Southwest—clinically a land of diabetes, gallbladder disease, and of the psychoses of emotional overexpression (feeble inhibition). It is a territory suggestive of the balloon tire and of soft cushioning. Nobody has yet done the work necessary for establishing the norms even for blood pressure in the different regions of the somatotype range. Ultimately, curves for blood pressure, and for many other physical and chemical expressions of personality, need to be made available for each somatotype—curves comparable to the nutrition curves in this Atlas. Blood pressure, like weight, is a dynamic, changing function. In order to know a person's blood pressure in any meaningful sense, it is necessary to take many measurements of it, under varying conditions and at different periods in the course of life. As yet, this kind of research has never been carried out against a background of knowledge of the somatotype. Our *impression* is that blood pressure follows a typically flatter curve in the Southwest than in the Northwest. Certainly the Southwest is less apoplectic and less prone to early coronary thrombosis than the Northwest.

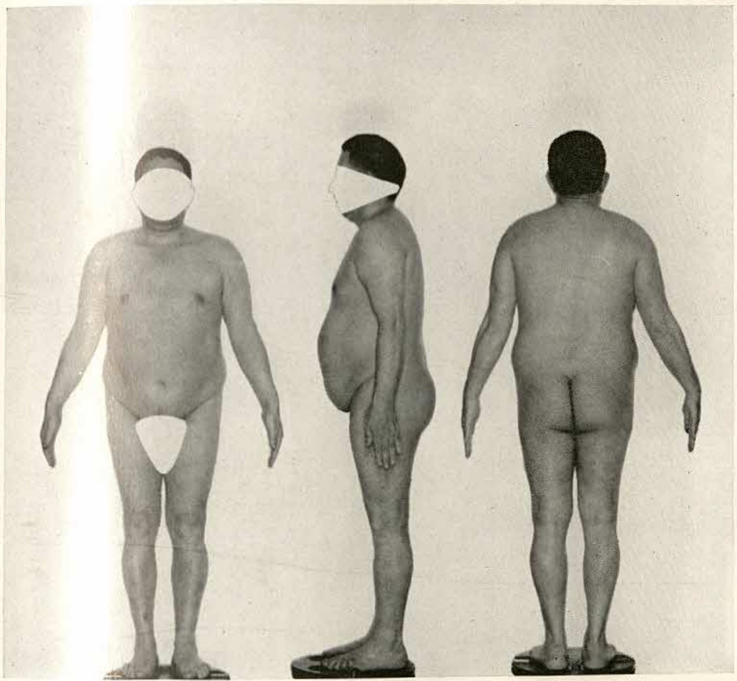


No. 1090 *6 3 1* (*1*) 6 3 1–6 3 1 11.90 at 20
6 3 1, 6 3 1, 6 3 1, 6 3 1½, 6 3½ 1½

631

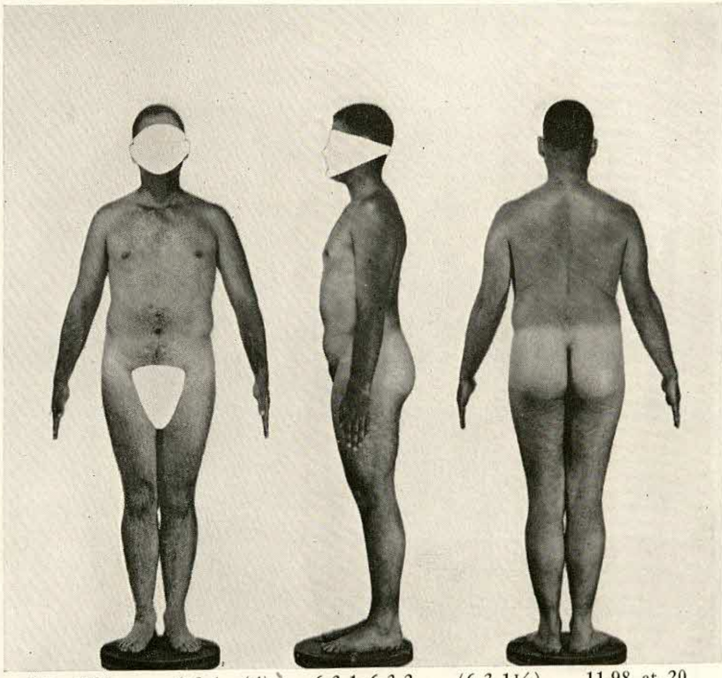


No. 1091 *6 3 1* (*2*) 6 3 1–6 3 1 11.68 at 23
5½ 3½ 1½, 5½ 3½ 1½, 6 2½ 1, 6 3 1, 6 3½ 1

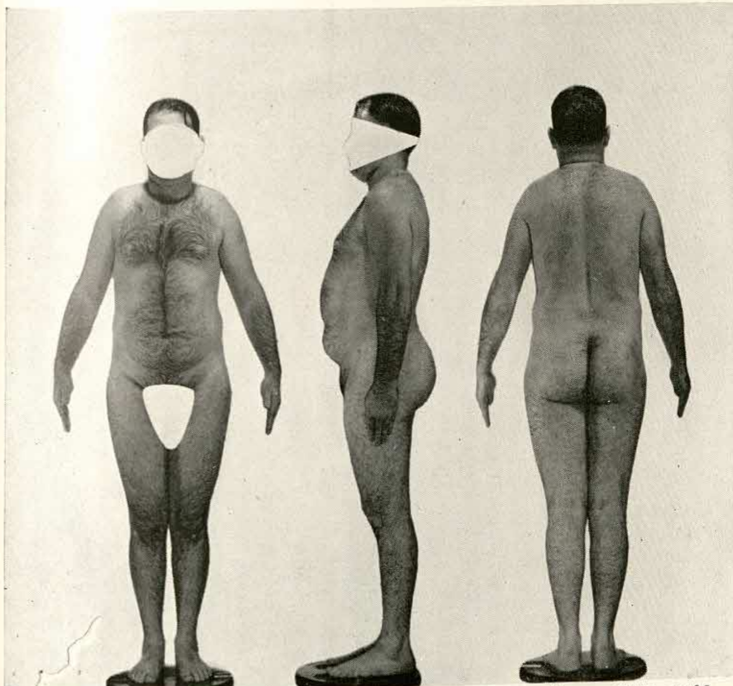


No. 1092 *6 3 1* (*3*) 6 3 1–6 3 1 11.07 at 44
6½ 3 1, 6 3 1, 6 2½ 1½, 6 3 1, 5½ 3½ 1½

631

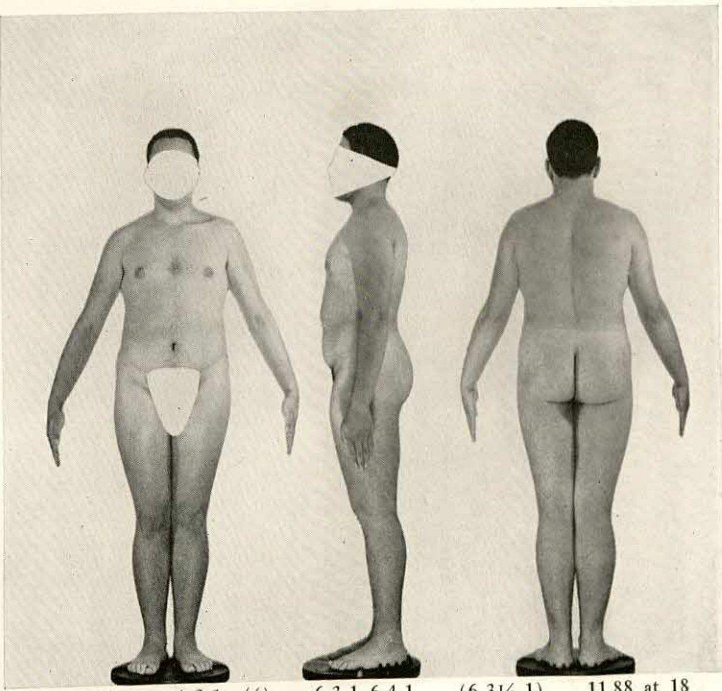


No. 1093 *6 3 1* (*4*) 6 3 1–6 3 2 (6 3 1½) 11.98 at 20
6 3 1½, 6 3 1½, 6 3 1½, 6 3 1½, 6 3 1

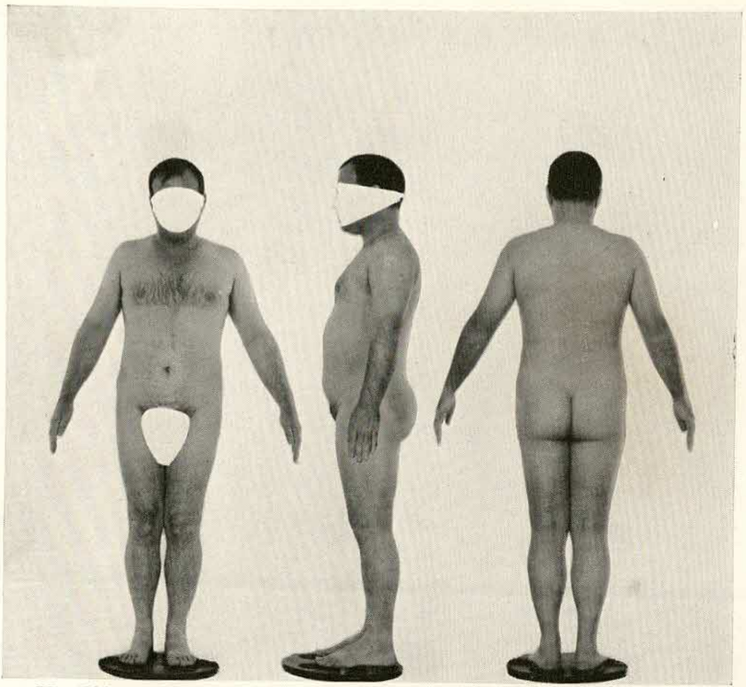


No. 1094 *6 3 1* (*5*) 6 3 1–6 3 2 (6 3 1½) 11.51 at 30
6 3 1½, 6 2 2, 6 3 1, 6 3 1, 6 3 2

631

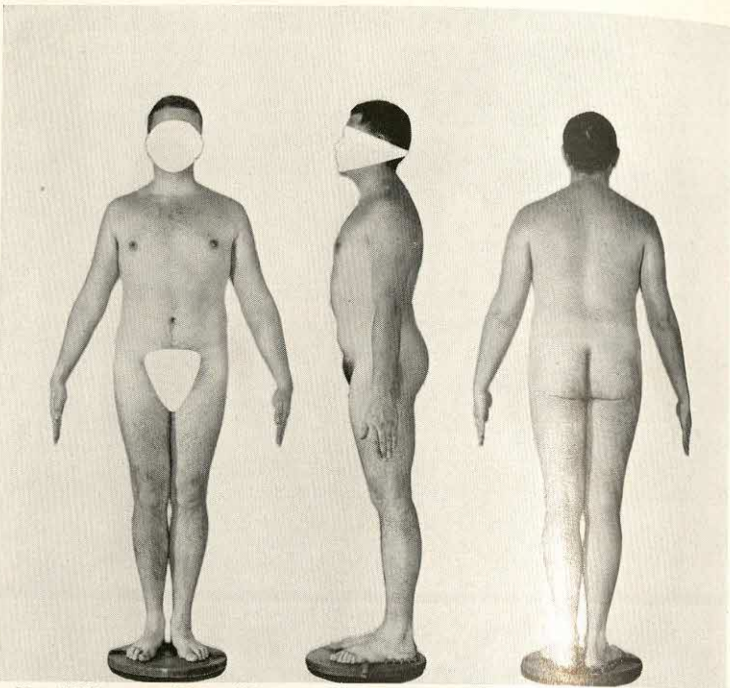


No. 1095 *6 3 1* (*6*) 6 3 1–6 4 1 (6 3½ 1) 11.88 at 18
6 3½ 1½, 6 3½ 1, 6 3 1½, 6 3 1, 6 3½ 1

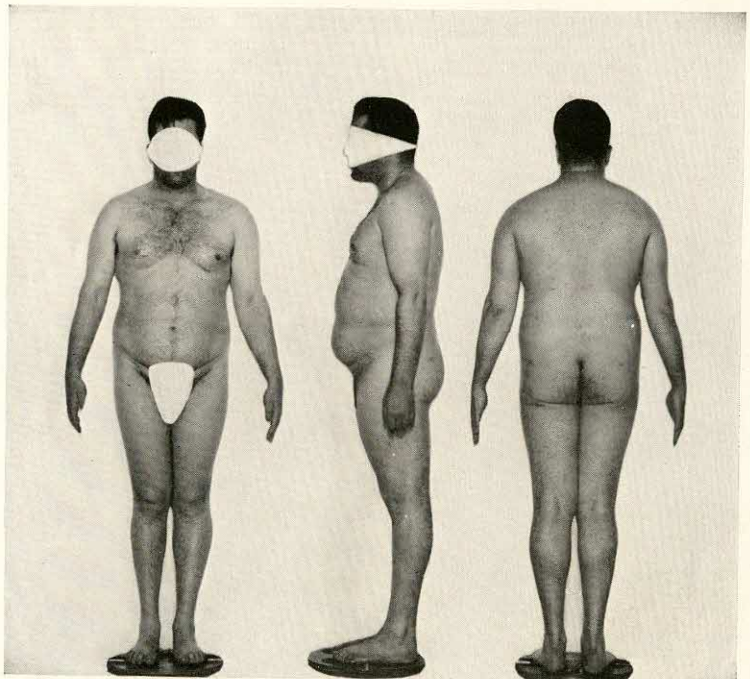


No. 1096 *6 3 1* (*7*) 6 3 1–6 4 1 (6 3½ 1) 11.22 at 30
6 3½ 1, 6 3 1, 6 3½ 1, 6 3½ 1, 6 3½ 1

631

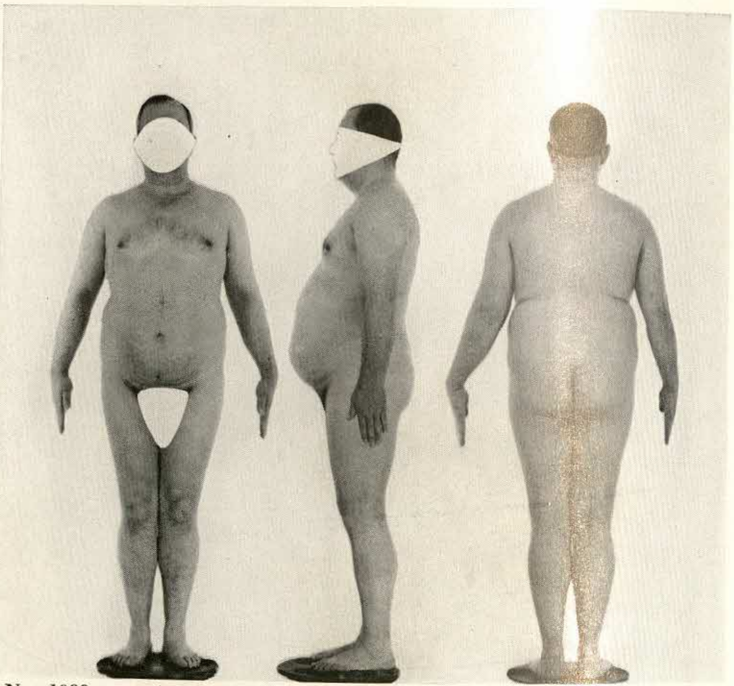


No. 1097 *6 3 1* (*8*) 6 3 1–6 4 2 (6 3½ 1½) 11.99 at 18
6 3 1½, 6 3½ 1, 6 3½ 2, 6 3½ 1½, 5½ 3½ 2

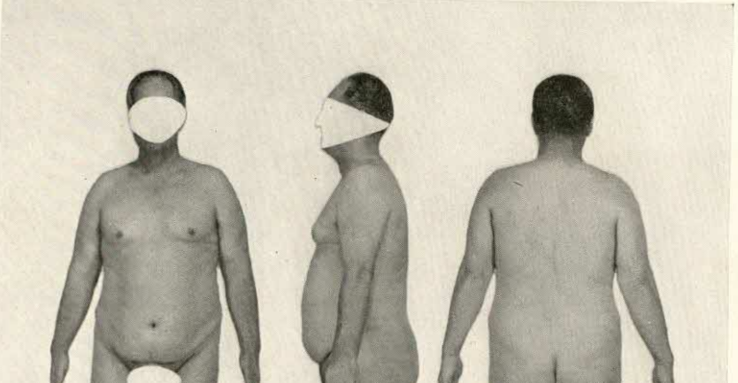


No. 1098 *6 3 1* (*9*) 6 3 1–6 4 2 (6 3½ 1½) 11.25 at 33
6 3½ 1½, 6 4 2, 6 3½ 1½, 6 3½ 1½, 6 3 2

631

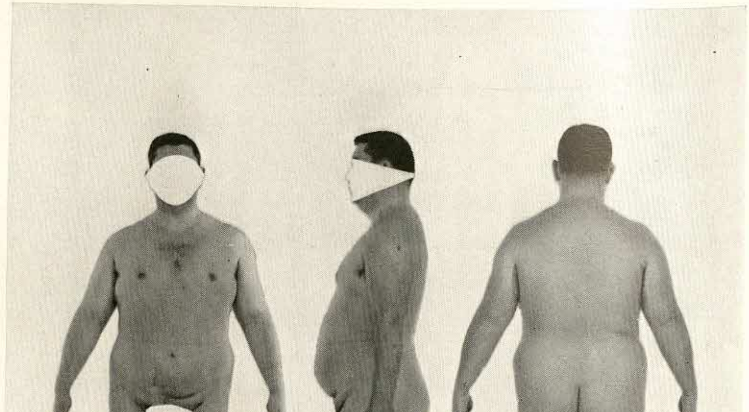


No. 1099 *6 3 1* (*10*) 6 3 1–6 4 2 (6 3½ 1½) 11.02 at 41
6 3½ 1½, 6 3½ 1½, 6 3½ 1, 6 3½ 1½, 6 3½ 1½

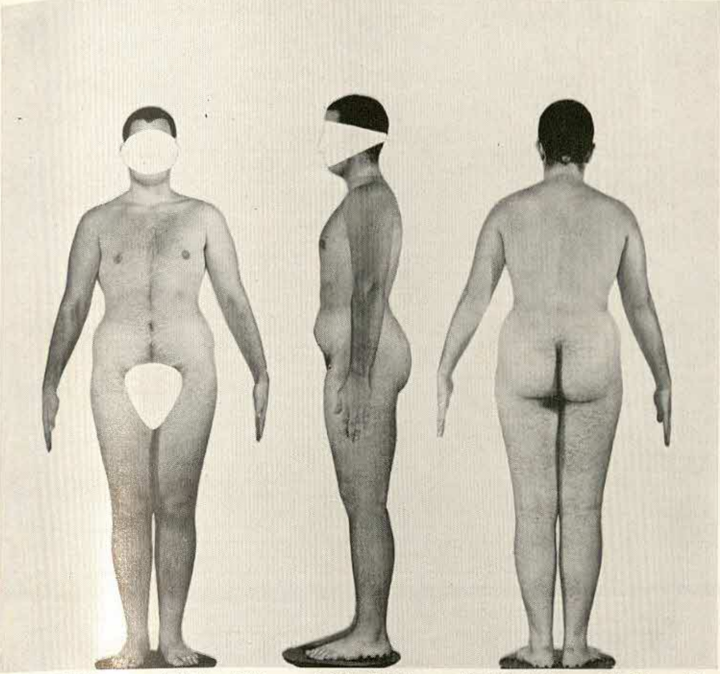


No. 1100 *6 3 1* (*11*) 6 3 1–6 4 2 (6 3½ 1½) 10.92 at 52
6 3½ 2, 6 3 1½, 6 3½ 1, 6 3½ 1½, 6 3½ 1

631

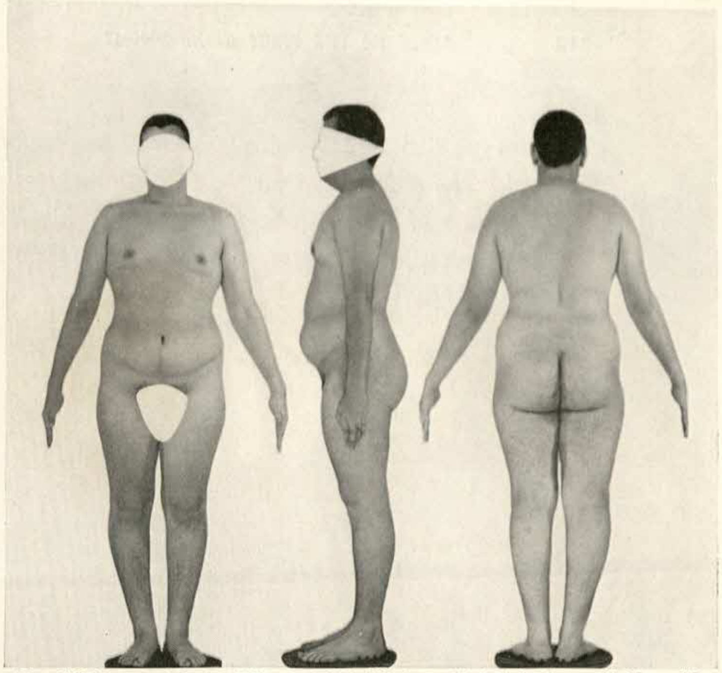


No. 1101 *6 3 1* (*12*) 6 3 1–7 3 1 (6½ 3 1) 10.97 at 25
6½ 3 1, 6½ 3 1, 6½ 3 1½, 6½ 3 1, 6½ 3 1

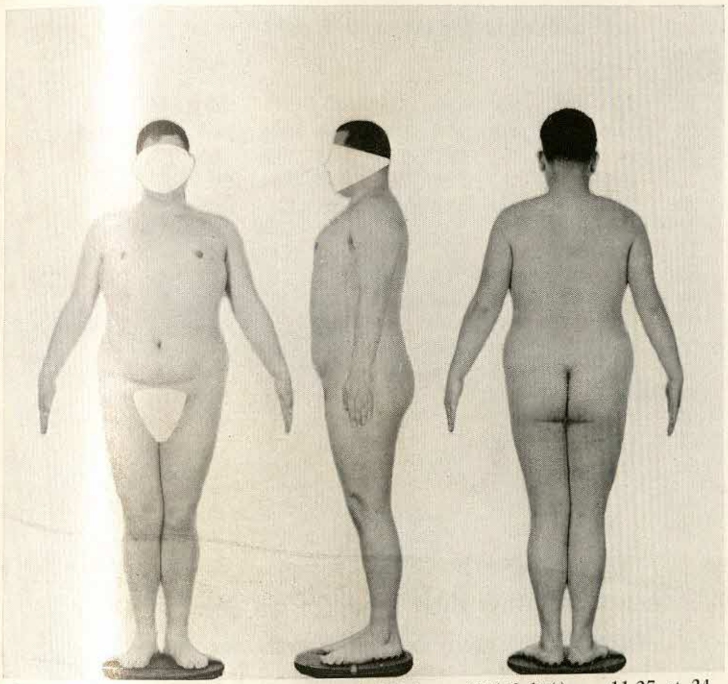


No. 1102 *6 3 1* *(13)* 6 3 1–7 3 2 (6½ 3 1½) 11.65 at 18
6 3 1½, 6½ 3½ 1, 6½ 3 1½, 6 3 1½, 7 3 1

631

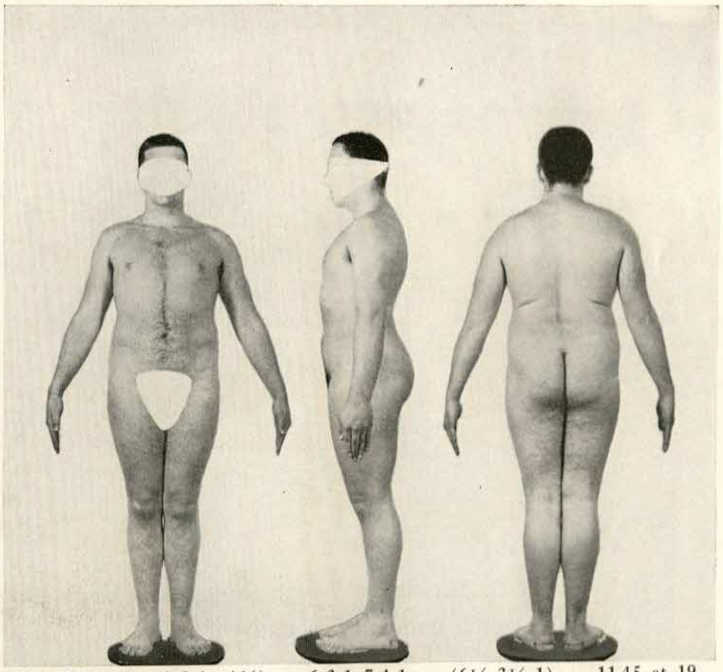


No. 1103 *6 3 1* *(14)* 6 3 1–7 3 2 (6½ 3 1½) 11.60 at 19
6½ 3 1½, 6½ 3½ 1, 6 2½ 2½, 6½ 3 1½, 6½ 3 1½

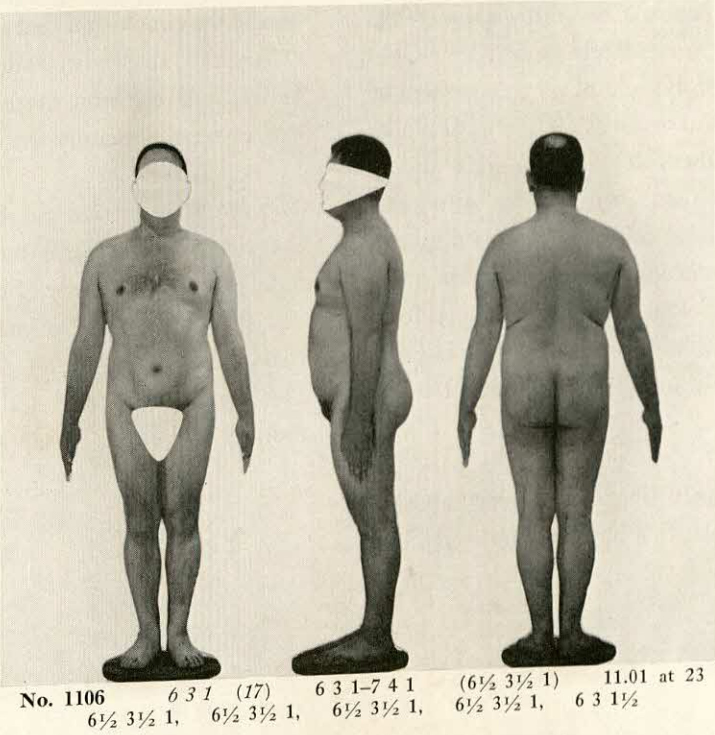


No. 1104 *6 3 1* *(15)* 6 3 1–7 3 2 (6½ 3 1½) 11.27 at 24
6½ 3 1½, 7 3 1½, 6½ 3 1½, 6½ 3 1½, 7 2½ 1

631

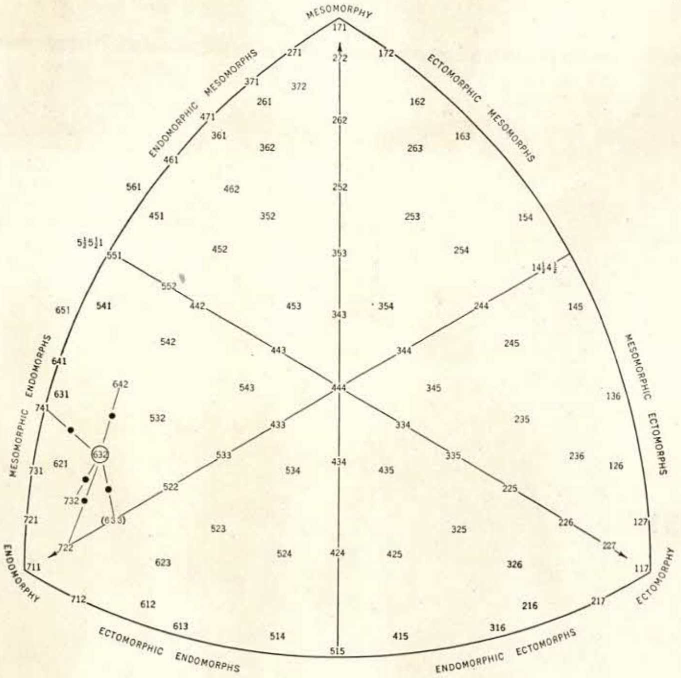


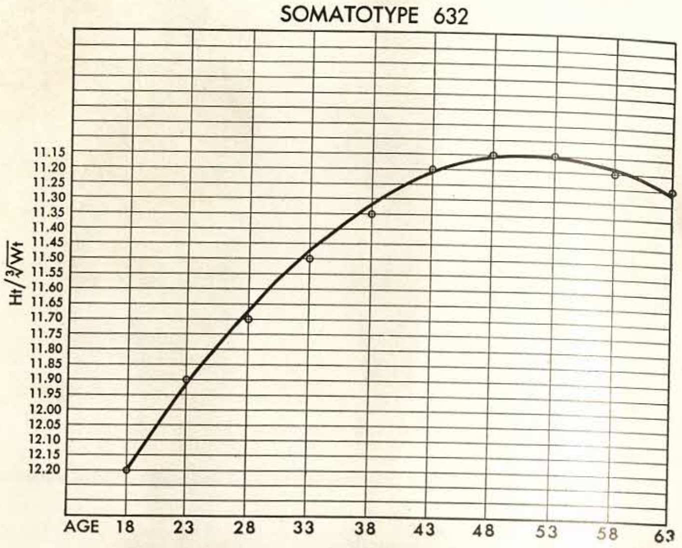
No. 1105 *6 3 1* *(16)* 6 3 1–7 4 1 (6½ 3½ 1) 11.45 at 19
6 3½ 1, 6½ 3½ 1, 6 3½ 1, 6½ 3½ 1, 7 3½ 1



No. 1106 *6 3 1* *(17)* 6 3 1–7 4 1 (6½ 3½ 1) 11.01 at 23
6½ 3½ 1, 6½ 3½ 1, 6½ 3½ 1, 6½ 3½ 1, 6 3 1½

Somatotype 6 3 2 *(Mesomorphic extreme endomorphy, 11-level.) The grampus. A larger, more linear, less compact member of the porpoise family, or dolphin family. Also gregarious, and common in his own Pacific seas. Nos. 1107–1119.*





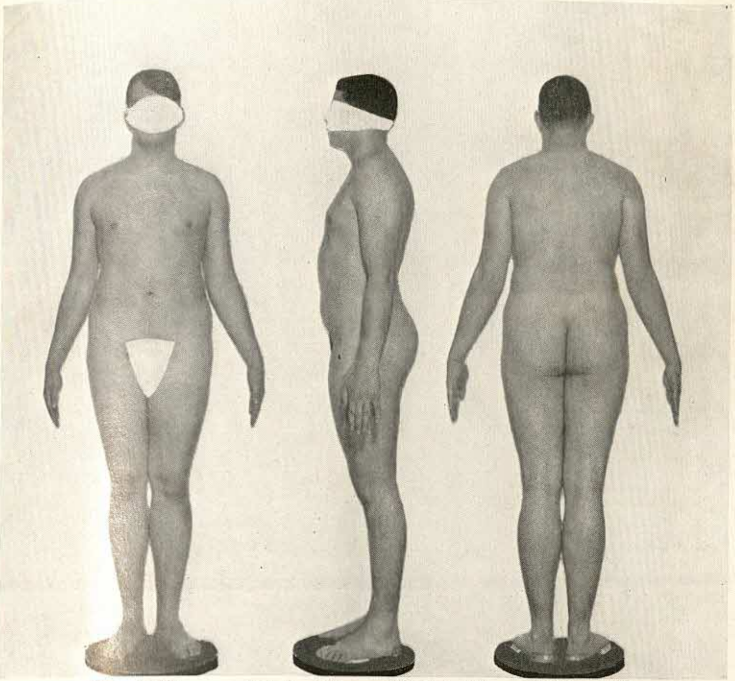
Weight for Age and Height

Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	233	250	265	278	290	300	306	305	302	296
74	224	240	253	267	278	288	293	292	289	283
73	215	230	242	256	266	276	281	280	277	271
72	207	221	233	246	256	265	269	269	266	261
71	198	212	224	236	246	254	258	258	255	251
70	190	204	215	227	236	244	247	247	245	241
69	182	195	206	217	226	234	238	237	235	231
68	174	187	197	208	216	224	227	227	225	221
67	167	179	188	199	207	214	217	217	215	211
66	159	170	180	190	197	205	208	208	205	202
65	152	163	172	181	188	195	200	199	196	193
64	145	155	164	173	180	186	190	190	187	184
63	138	148	157	165	171	178	181	181	178	175
62	132	141	149	157	164	169	172	172	170	167
61	125	135	142	150	156	161	165	164	162	159

Rarity 3. Incidence 7 per thousand. Commonest of the extreme endomorphs and the only one, except his cousin the 6 4 2, found in the rarity 3 column. In any group of a thousand college boys, unless an exacting physical examination was one of the criteria for selection, as at West Point, there are likely to be six or eight 6 3 2's. Boys of this somatotype, and men too, seem to be remarkably successful at expressing the positive or constructive qualities of viscerotonia. They give an impression of being *jolly* fat men, in a healthy sense, and they often provide the skeletal cohesion for social groups of every description. These are quite frequently big men, tall and endowed with sufficient molding, or shape, for a degree of pillowy dignity. The 6 3 2, in the full blossom of his endomorphic middle age, makes an ideal Santa Claus.

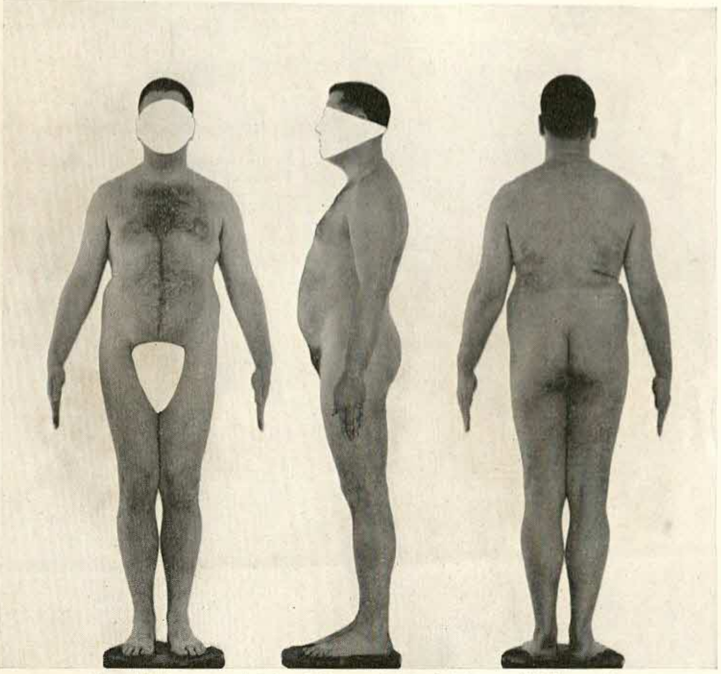
Such a somatotype can easily burgeon to gross obesity, and occasionally does. When this happens the individual must be nearly always short lived, for we now and then see it happening, usually in the fourth decade, yet a burgeoned 6 3 2 is a real rarity in his sixth decade, and is far from a common sight in his fifth. It is difficult to escape the conclusion that some of the heavy endomorphs, at any rate the 6's in endomorphy, control their weight better, and burgeon more rarely, than do some of the less extreme somatotypes.

The nutrition curves for the 6 3 1 and 6 3 2 indicate that these porpoise somatotypes are longer lived than the more mesopenic family of the seals, and that on the average they add slightly less poundage during adult life than, for example, the great bears—the 4 6 1 and 4 6 2. Possibly they do add all the weight that their mesomorphy will carry.

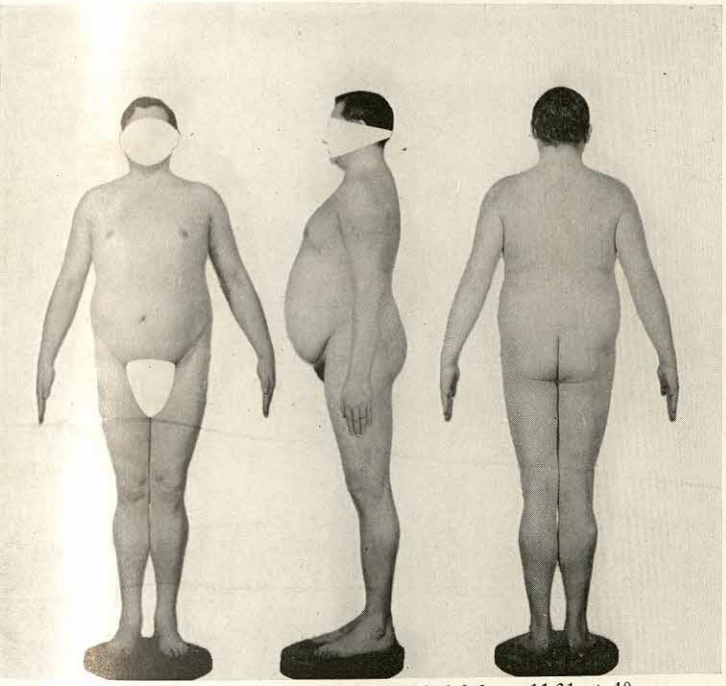


No. 1107 *6 3 2* (*1*) 6 3 2–6 3 2 12.20 at 18
6 3 2, 6 3 2, 6 3 2, 6 3 2, 6½ 3 2

632

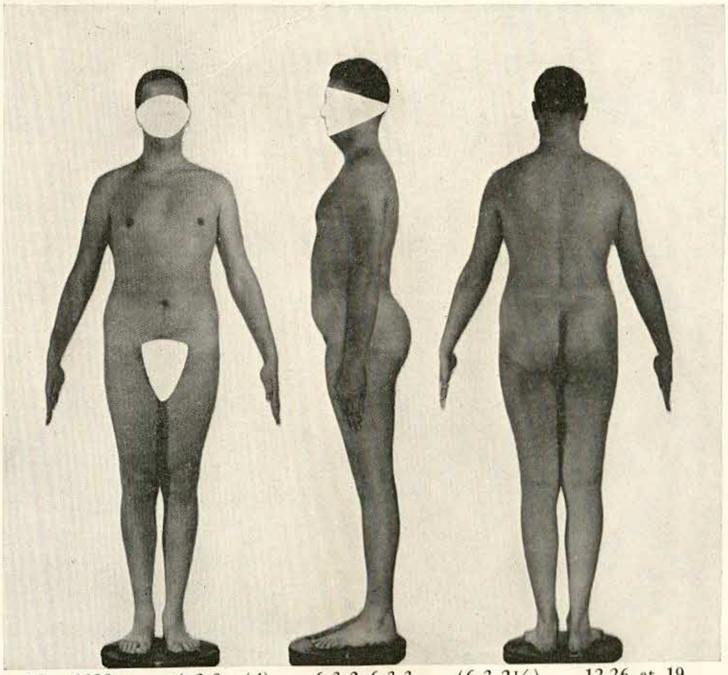


No. 1108 *6 3 2* (*2*) 6 3 2–6 3 2 11.53 at 32
6 3 1½, 6 3 2, 6 3 2, 6 2½ 2, 6 3 1½

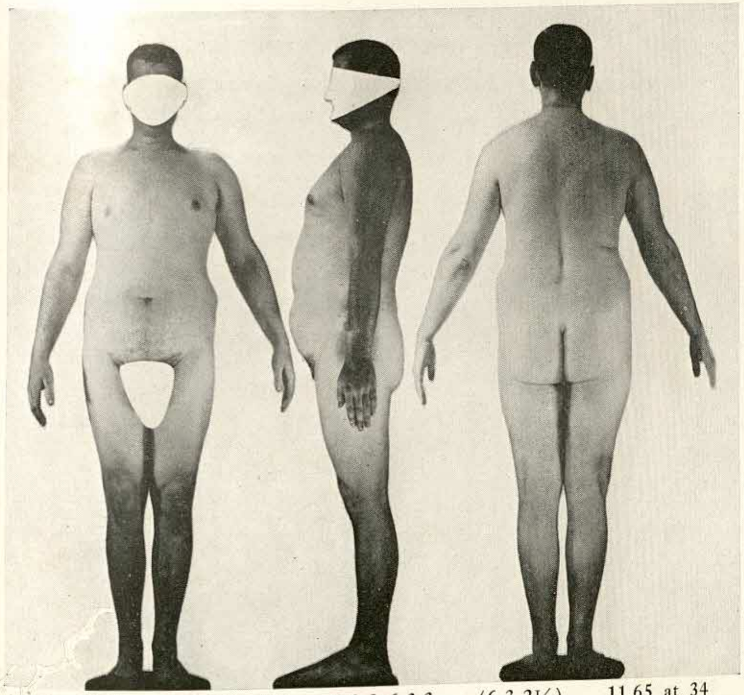


No. 1109 *6 3 2* (*3*) 6 3 2–6 3 2 11.31 at 40
6 3 1½, 6 3 2, 6 3 2, 6 3 1½, 5½ 3 3

632

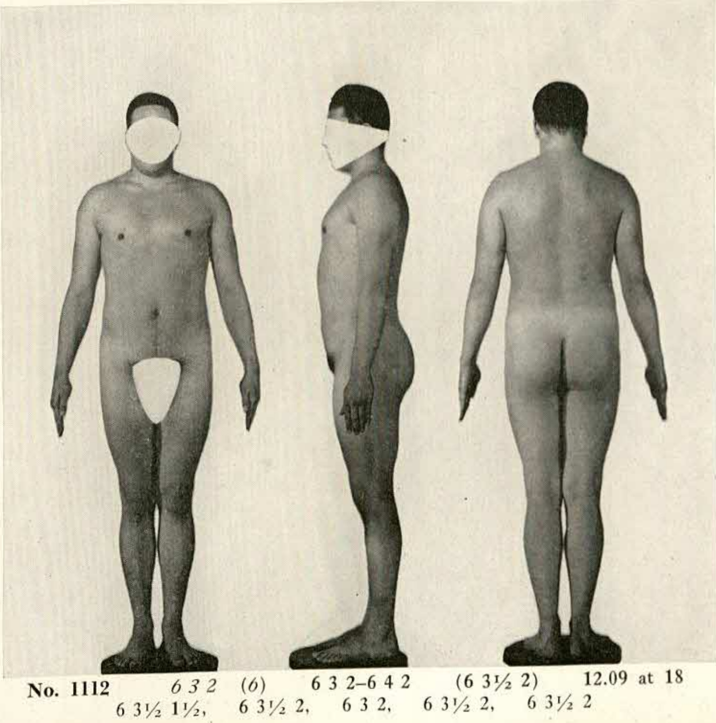


No. 1110 *6 3 2* (*4*) 6 3 2–6 3 3 (6 3 2½) 12.26 at 19
6 2½ 2½, 6 2½ 2½, 6 3 2, 6 3 2½, 6 3 3

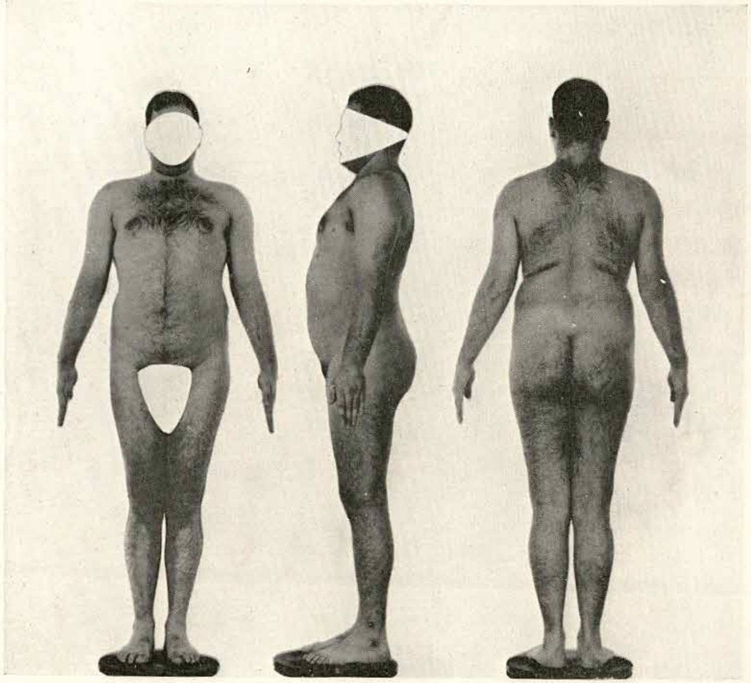


No. 1111 *6 3 2* (*5*) 6 3 2–6 3 3 (6 3 2½) 11.65 at 34
6 3 2½, 6 3 2, 6 3½ 2, 6 3 2½, 6 3 2½

632

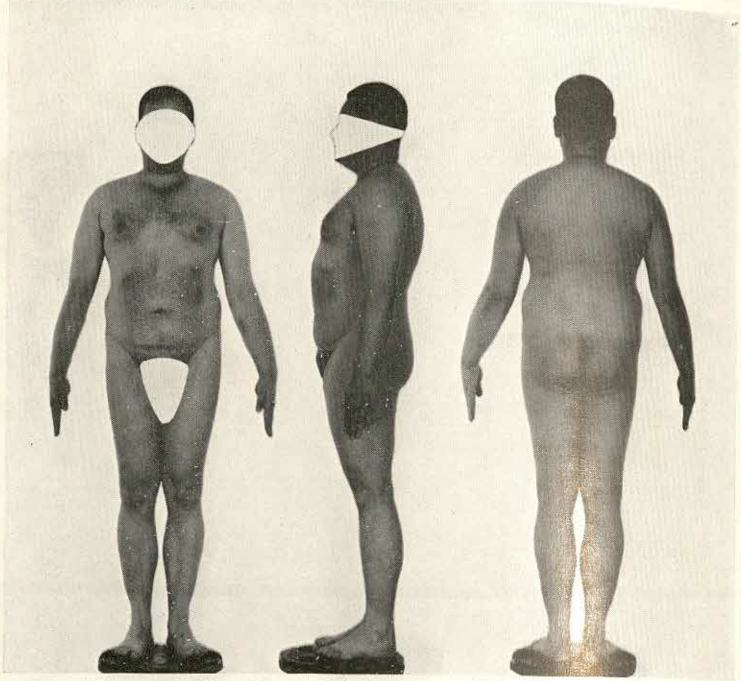


No. 1112 *6 3 2* (*6*) 6 3 2–6 4 2 (6 3½ 2) 12.09 at 18
6 3½ 1½, 6 3½ 2, 6 3 2, 6 3½ 2, 6 3½ 2

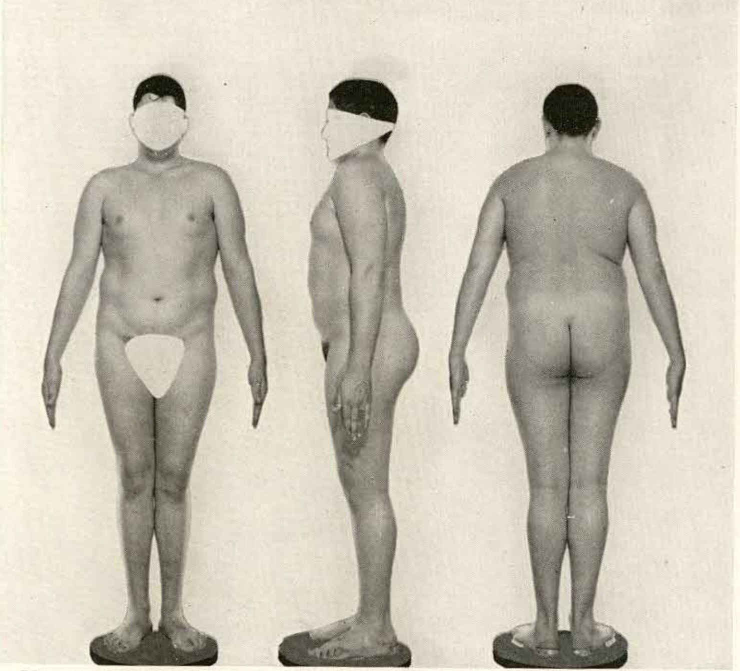


No. 1113 *6 3 2* (*7*) 6 3 2–6 4 2 (6 3½ 2) 11.60 at 27
6 3½ 1½, 6 3 2½, 6 3 1½, 6 3½ 2, 6 3½ 2

632

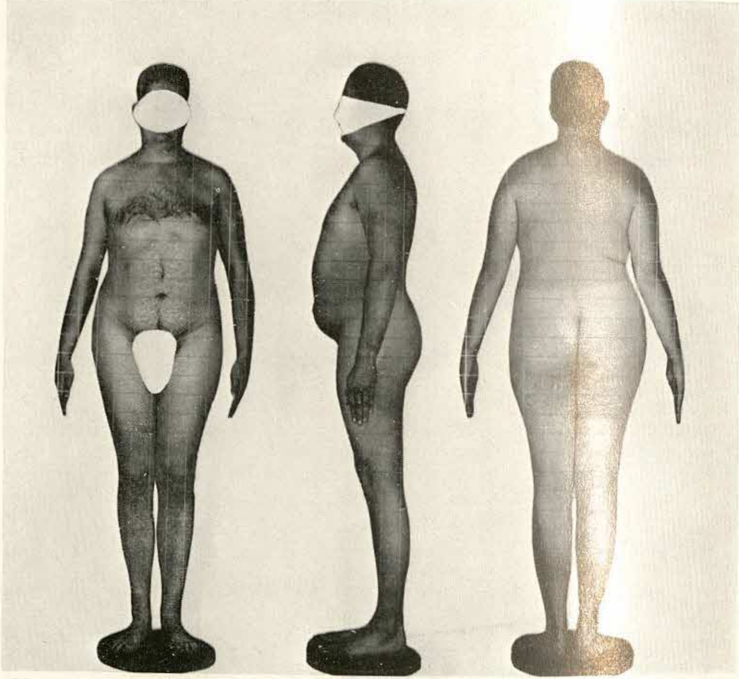


No. 1114 *6 3 2* (*8*) 6 3 2–6 4 2 (6 3½ 2) 11.46 at 30
6 3½ 2, 6 3½ 2, 6 3½ 1½, 6 3 2, 5½ 3½ 2

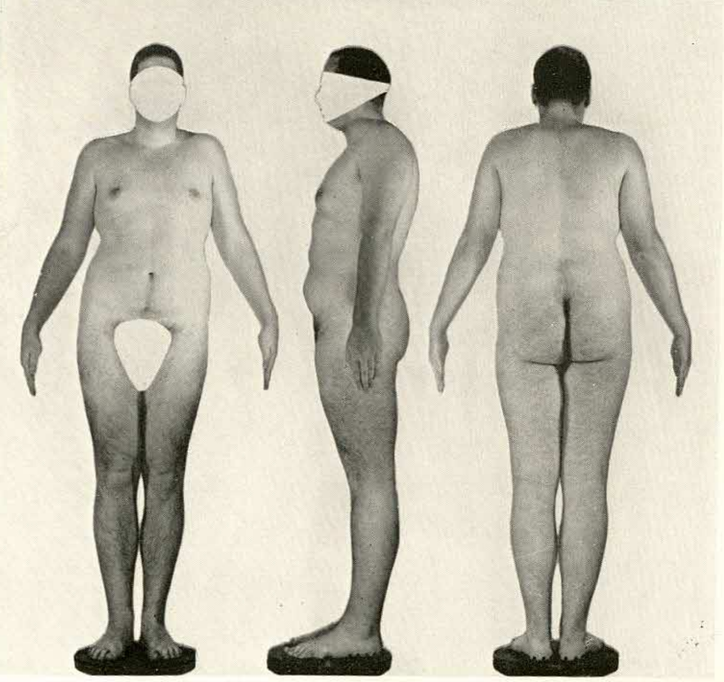


No. 1115 *6 3 2* (*9*) 6 3 2–7 2 2 (6½ 2½ 2) 11.84 at 18
6½ 3 1½, 6½ 2½ 2, 6½ 2½ 2½, 6½ 2½ 2, 6½ 2½ 2½

632

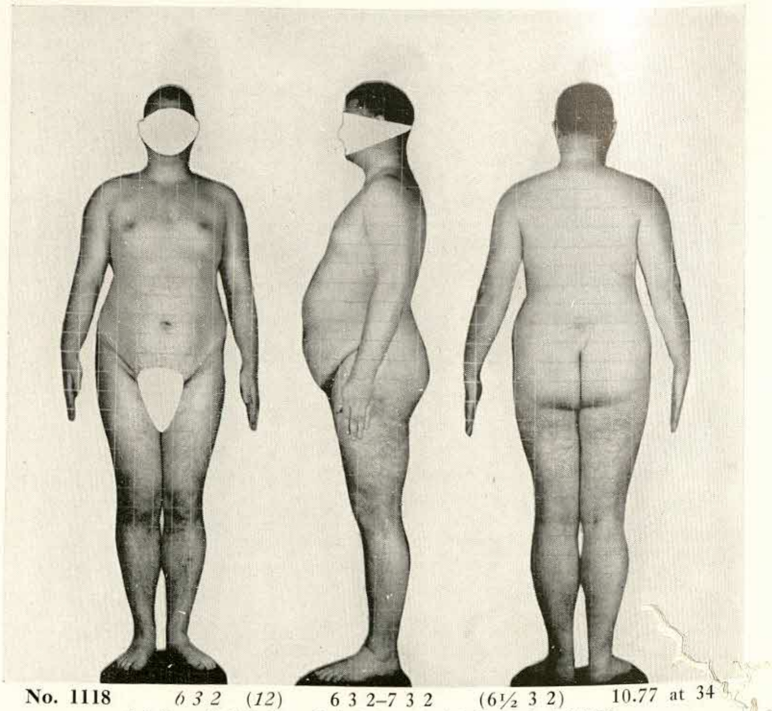


No. 1116 *6 3 2* (*10*) 6 3 2–7 2 2 (6½ 2½ 2) 11.41 at 24
6½ 2½ 2, 6½ 2 2½, 6½ 2½ 2, 6½ 2½ 2, 6½ 2 2½



No. 1117 *6 3 2* (*11*) 6 3 2–7 3 2 (6½ 3 2) 11.76 at 18
6½ 3 2, 6 3 2, 6½ 3 1½, 6½ 3 2, 6½ 3 2

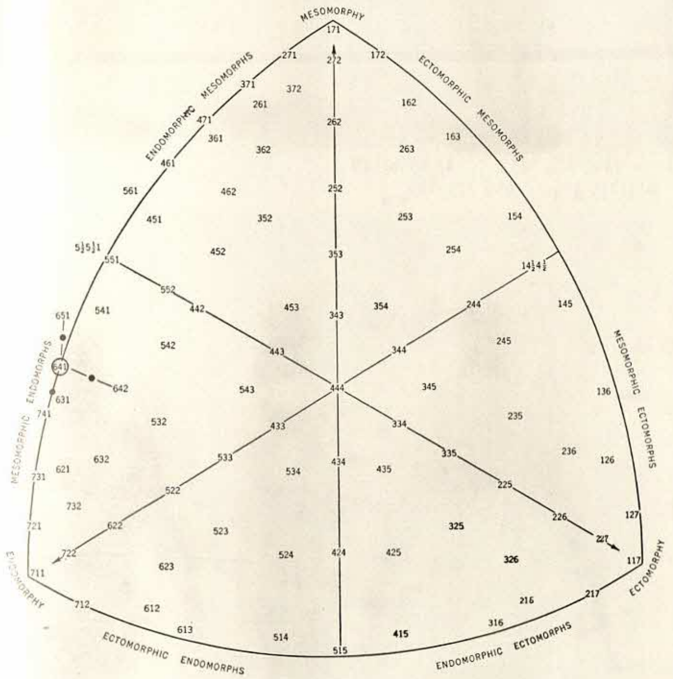
632



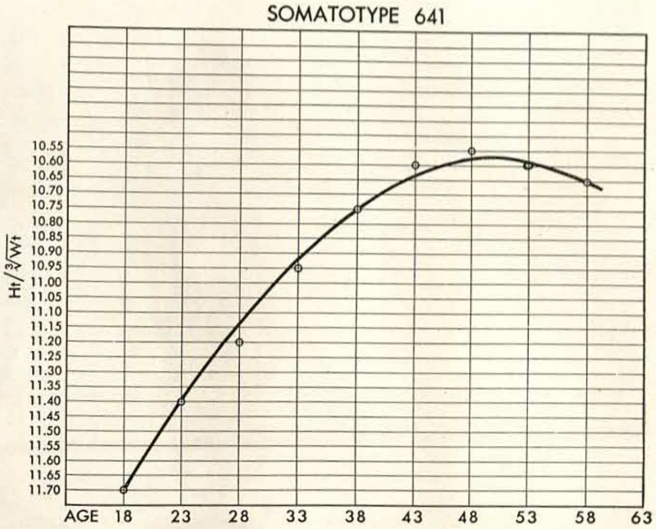
No. 1118 *6 3 2* (*12*) 6 3 2–7 3 2 (6½ 3 2) 10.77 at 34
6 3 2, 6½ 3 2, 6½ 3 2, 6½ 3 2, 6½ 3 1½

38. WALRUSES

Somatotype 6 4 1 *(Mesomorphic extreme endomorphy at extreme ectopenia, 11-level.) Atlantic walrus. The old male is a compact ton of flesh and blubber. He eats aquatic plants and crustaceans—shells and all. Sleeps* sitting up *in the water. Has no socially discernible neck. His name means whale horse in Old Scandinavian. Nos. 1120–1128.*



SOMATOTYPE 641

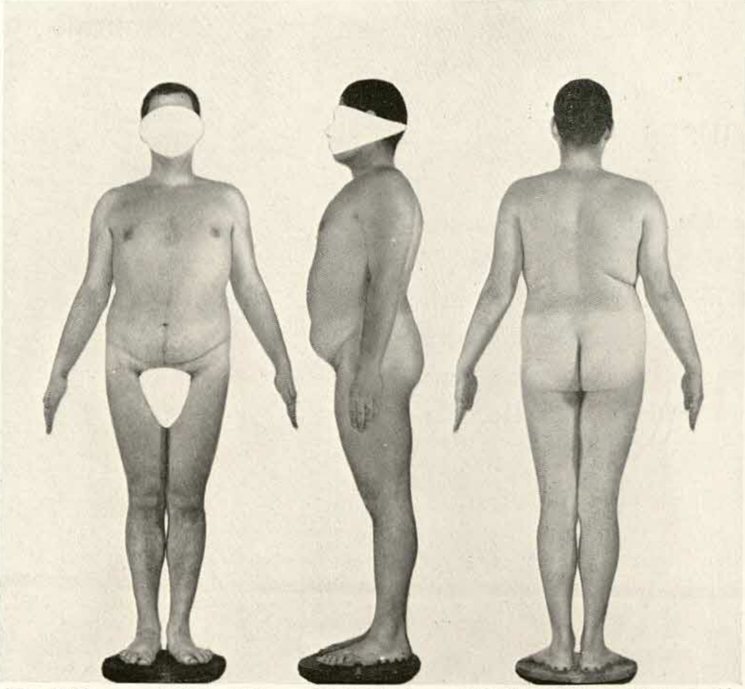


Weight for Age and Height

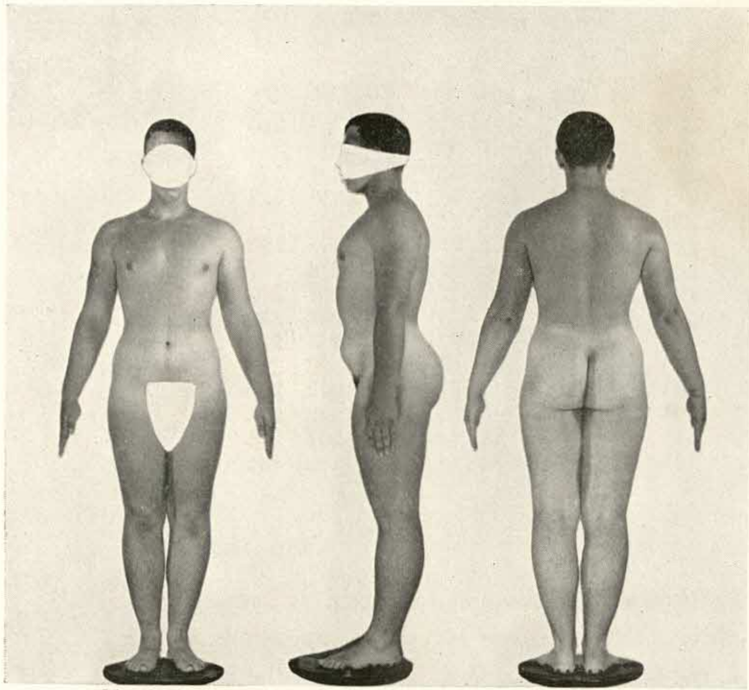
Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	262	283	302	322	339	353	357	359	353	..
74	251	271	289	310	326	340	344	344	339	..
73	241	260	277	297	313	326	331	330	325	..
72	232	250	266	284	300	313	318	317	312	..
71	223	240	255	273	287	301	304	303	298	..
70	214	230	245	262	275	288	291	289	285	.
69	204	221	235	251	264	275	278	277	273	..
68	196	212	225	240	253	264	267	266	262	..
67	187	202	215	230	341	252	255	254	250	..
66	179	193	205	220	231	241	243	242	239	..
65	171	184	196	210	220	230	232	231	228	..
64	163	176	187	200	210	220	222	221	218	..
63	156	168	178	191	201	210	212	211	208	..
62	148	160	170	182	191	200	202	201	198	..
61	141	153	162	174	182	190	192	191	189	..

Rarity 4. Incidence 2 per thousand. If the 6 2 1 is the conventional little Cupid, the 6 4 1 is a heavy, solid rubber Cupid. You can sit on him without hurting him, or even making any impression. Indeed, this may be an ideal pattern for "business."

With this somatotype we come into the center of a little group of extreme heavies who are more soft than hard—the somatotypes lying just South of the extreme Northwest position. The 6 4 1, 6 4 2, 6 5 1 and 7 4 1 illustrate one curious principle. Notice that in each of these four instances the somatotype in question expresses one of the six possible permutations of the three numerals that are used. Thus the other members of the permutation family which includes the 6 4 1 would be 4 6 1, 4 1 6 and 6 1 4, 1 4 6 and 1 6 4. In a geographical sense, there are three pairs: One pair from the Northwest, one pair from the South, and one pair from the Northeast. The curious thing is that only the pair from the Northwest are found in the flesh, as somatotypes, and this is similarly true for the permutations of the 6 4 2, the 6 5 1 and the 7 4 1. So far as the Northeast and the South are concerned, nature appears to have given up on the difficult business of "integrating" a 6 in one component with a 4 in another. She gave up first in the Northeast, or so we presume from the fact that there even the two 5's do not occur together (as the 1 5 5). In the South she did succeed, perhaps questionably, with this combination (as the 5 1 5). But in the Northwest the 5 5 1 luxuriates, as does also the 5 5 2.

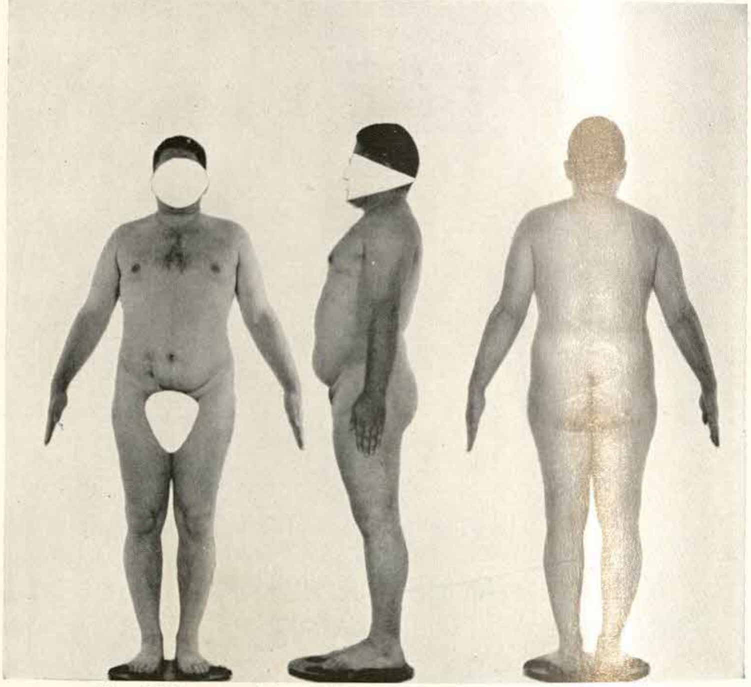


No. 1119 *6 3 2* (*13*) 6 3 2–7 4 1 (6½ 3½ 1½) 11.48 at 19
6½ 3 1½, 6½ 4 1, 6½ 3 1½, 6½ 3½ 1½, 6½ 3½ 1½

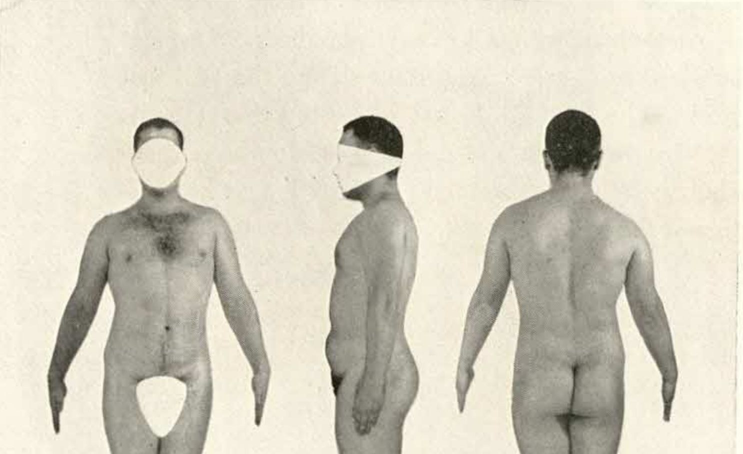


No. 1120 *6 4 1* (*1*) 6 4 1–6 4 1 11.72 at 18
6 3 1, 6 4 1, 6 4 1, 6 3½ 1, 6½ 4½ 1

641

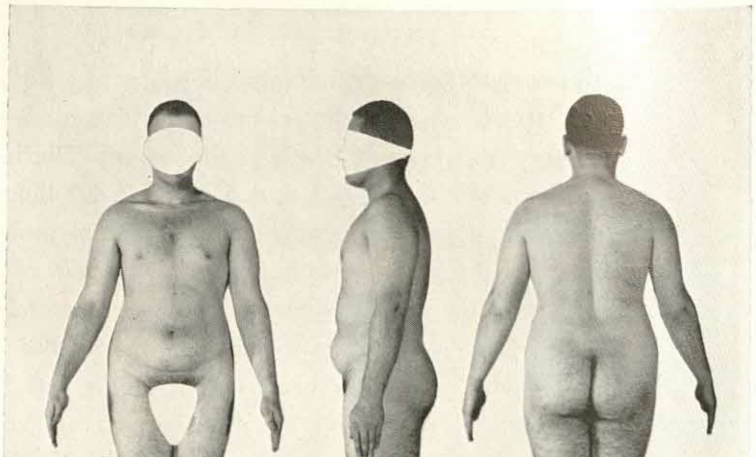


No. 1121 *6 4 1* (*2*) 6 4 1–6 4 1 11.08 at 30
6 4 1, 6 4 1, 6 4 1, 6 4 1½, 6 4 1

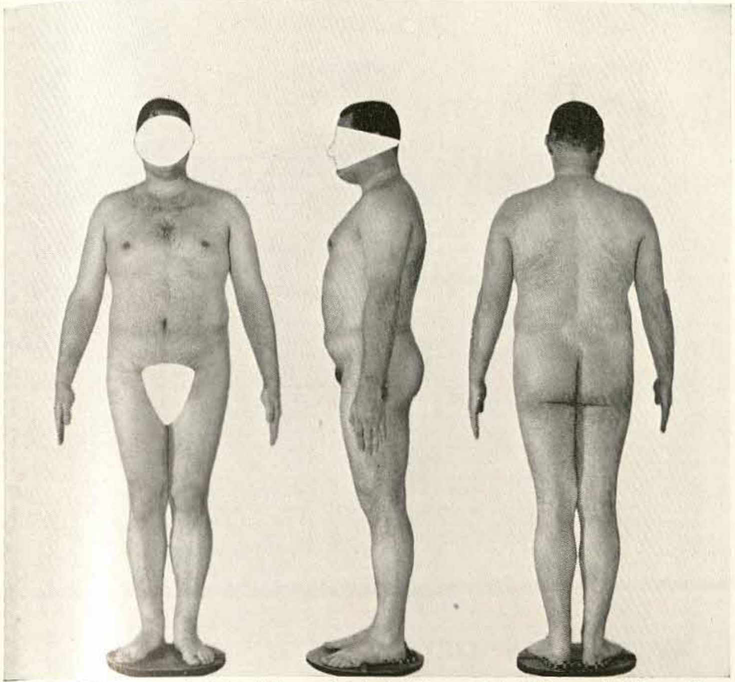


No. 1122 *6 4 1* (*3*) 6 4 1–6 4 2 (6 4 1½) 11.86 at 18
6 3½ 1½, 5½ 4 1, 6 4 1½, 6 4 1½, 6 4 1½

641

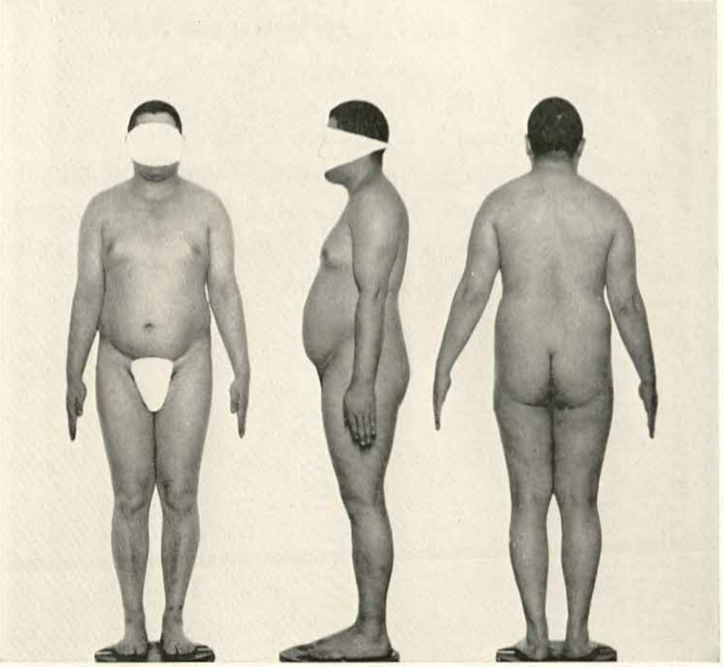


No. 1123 *6 4 1* (*4*) 6 4 1–6 4 2 (6 4 1½) 11.56 at 23
6 4 1½, 6 4½ 1, 6 4 1½, 6 4 1½, 6½ 4 1½

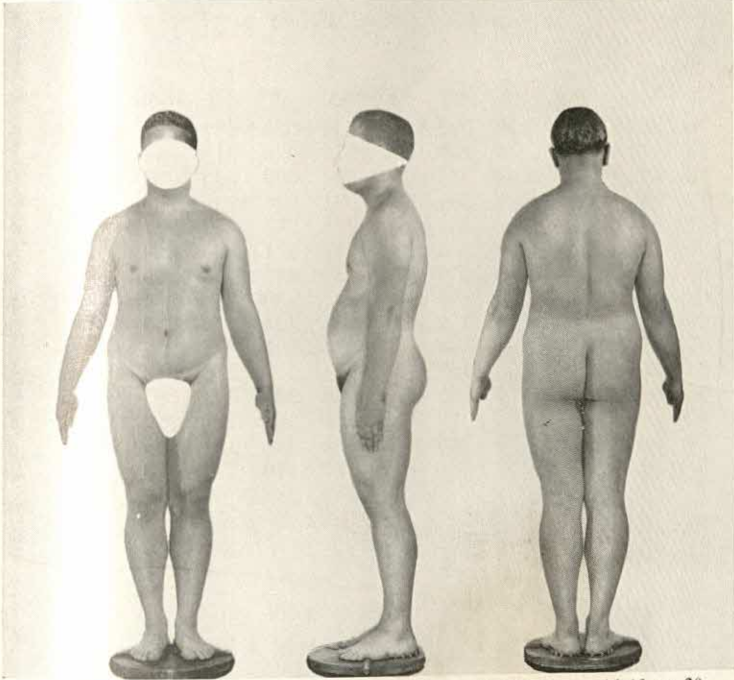


No. 1124 *6 4 1* *(5)* 6 4 1–6 4 2 (6 4 1½) 11.34 at 27
6 4 1½, 6 4 1½, 6 4 1½, 6 4 1½, 6 4 1½

641

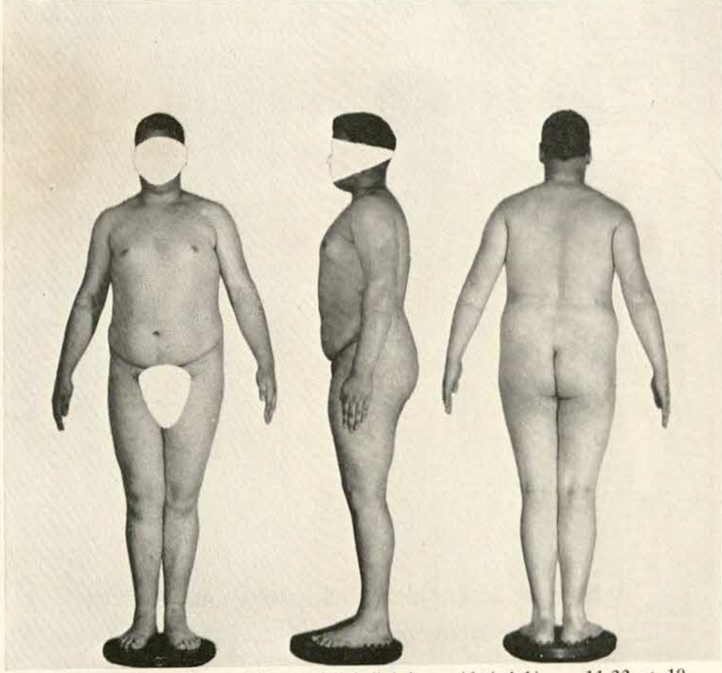


No. 1125 *6 4 1* (*6*) 6 4 1–6 4 2 (6 4 1½) 11.20 at 30
6 4½ 1½, 6 3½ 1½, 6 3½ 1½, 6 3½ 1½, 6 4 1½

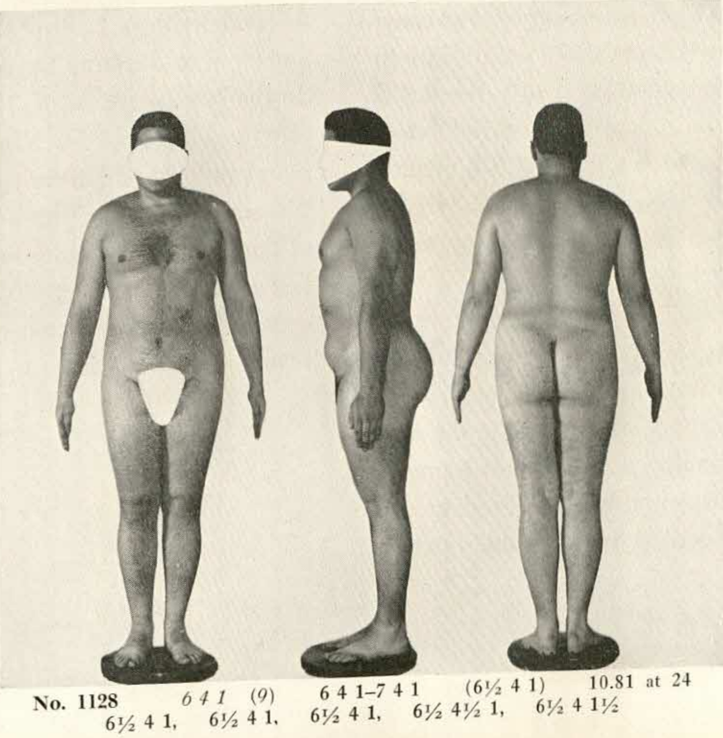


No. 1126 *6 4 1* (*7*) 6 4 1–6 5 1 (6 4½ 1) 11.43 at 20
6 4½ 1, 6 4 1½, 6 4 1, 5½ 4½ 1, 6 4½ 1

641

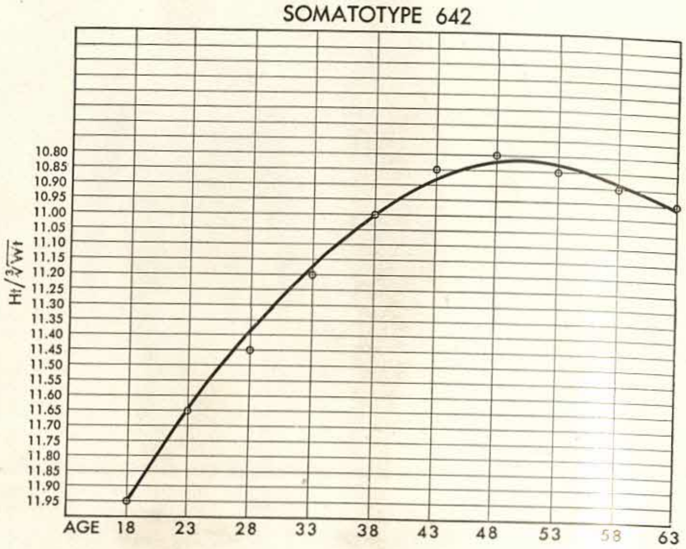


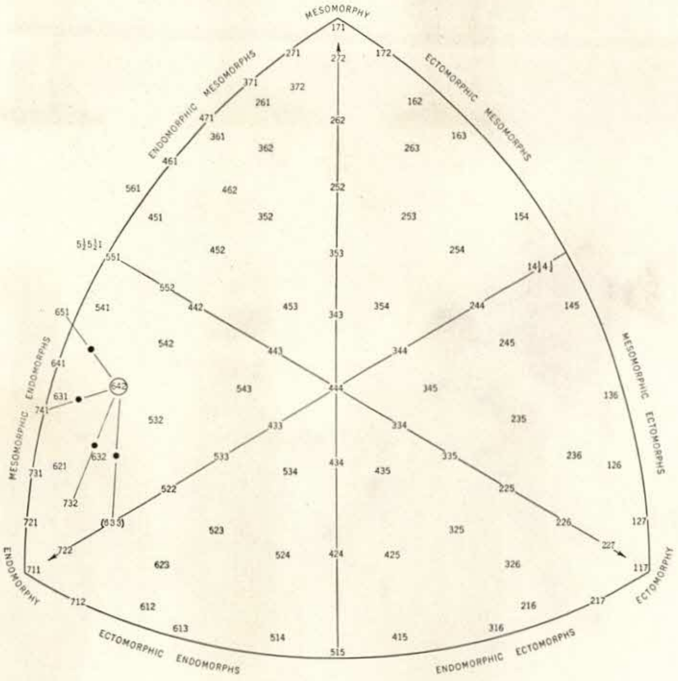
No. 1127 *6 4 1* (*8*) 6 4 1–7 4 1 (6½ 4 1) 11.22 at 19
6½ 4 1, 6½ 4 1, 6½ 4 1½, 6½ 3½ 1, 6½ 3½ 1½



No. 1128 *6 4 1* (*9*) 6 4 1–7 4 1 (6½ 4 1) 10.81 at 24
6½ 4 1, 6½ 4 1, 6½ 4 1, 6½ 4½ 1, 6½ 4 1½

Somatotype 6 4 2 *(Mesomorphic extreme endomorphy, 12-level.) Pacific walrus. Bigger than his Atlantic brother, a little longer, and he has a discernible neck. Gentle by nature, walruses can fight back powerfully when attacked in the water. Nos. 1129–1139.*





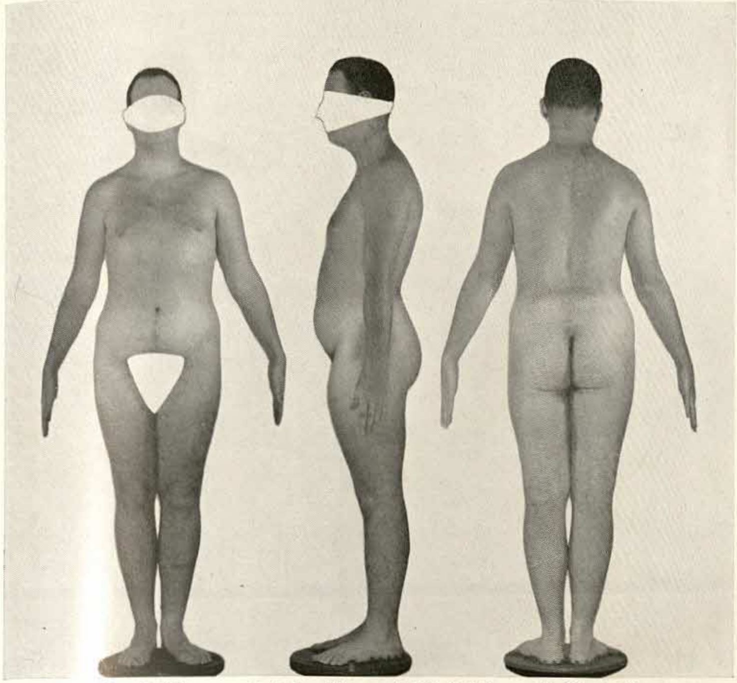
Weight for Age and Height

Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	248	266	282	300	318	330	333	331	327	324
74	238	255	270	287	307	316	320	318	314	311
73	229	245	258	275	294	304	308	305	302	299
72	220	235	248	264	282	291	294	292	289	287
71	211	226	238	254	270	279	283	280	277	275
70	203	217	229	243	260	268	271	268	266	264
69	193	208	219	233	249	257	260	258	255	253
68	186	199	209	223	238	246	249	247	244	242
67	178	190	200	213	228	235	237	236	233	231
66	169	181	191	204	217	224	227	225	223	221
65	162	173	183	195	208	214	217	215	213	211
64	154	165	174	186	198	204	207	205	203	202
63	147	157	167	177	189	195	198	196	194	192
62	141	150	159	169	180	186	188	187	185	183
61	134	143	152	161	172	177	179	178	176	175

Rarity 3. Incidence 5 per thousand. Second commonest extreme endomorph, and this somatotype, like its even more frequently encountered cousin the 6 3 2, almost certainly predisposes a personality toward extraverted joviality. But there is more mesomorphy, and often more drive, in the 6 4 2. He is Santa Claus pumped up to higher pressure. One young somatotyper calls the 6 4 2 the President Taft somatotype. She may be right, too, although Mr. Taft may have been a heavy 5 5 2. At any rate it should be comforting to know, if your somatotype is in this neighborhood, that you stand a chance to be President.

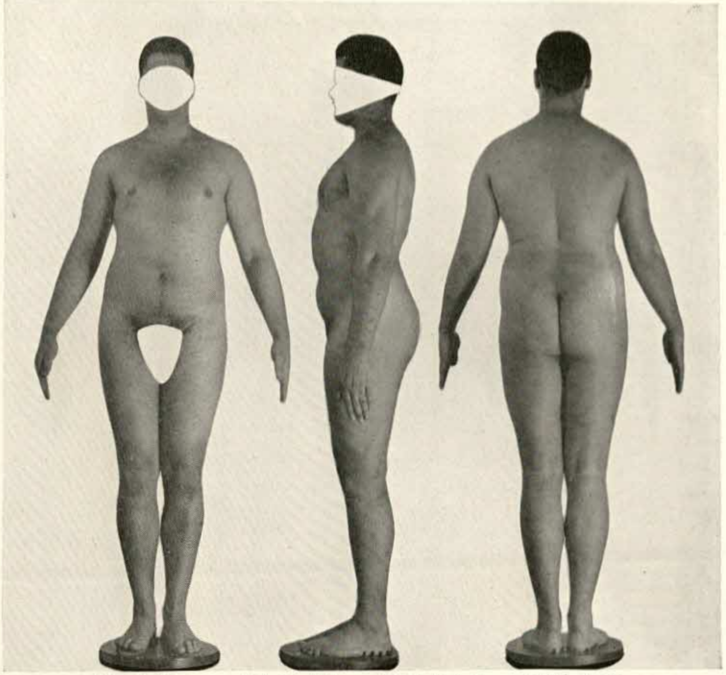
The nutrition curves for the walrus somatotypes indicate that people of this pattern run into very heavy weather after they have reached maximal weight, late in the fifth decade, and as a rule jettisoning begins almost immediately. Yet this is not a conspicuously short lived group. It is still fairly well represented in its middle sixties.

Perhaps it is an unusually *intelligent* group—smart enough to throw off its surplus weight when it really needs to do so in order to survive. Another possibility would be that these people, since they are primarily soft and Southwest rather than hard and Northwest, tend less often to die from the acute vascular "accident" than do the Northwesterners. That is to say, they are not so often suddenly cut down in midlife but do their dying in more gradual and leisurely fashion, as do the ectomorphs. The acute cardiovascular ailments, which do a large share of the killing in the human Northwest, still kill about as fast as they ever did. But diabetes and its associated disorders, principal dispatchers in the Southwest, have been materially slowed down by current medical practice.

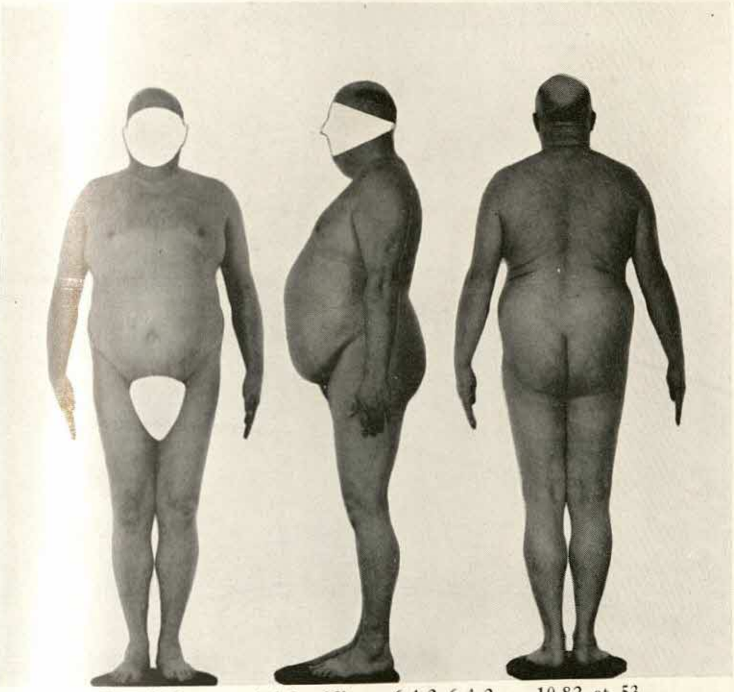


No. 1129 *6 4 2* (*1*) 6 4 2–6 4 2 11.91 at 19
6 4 2, 6 3 2, 6 4 2, 6 4 2, 6½ 4 1½

642

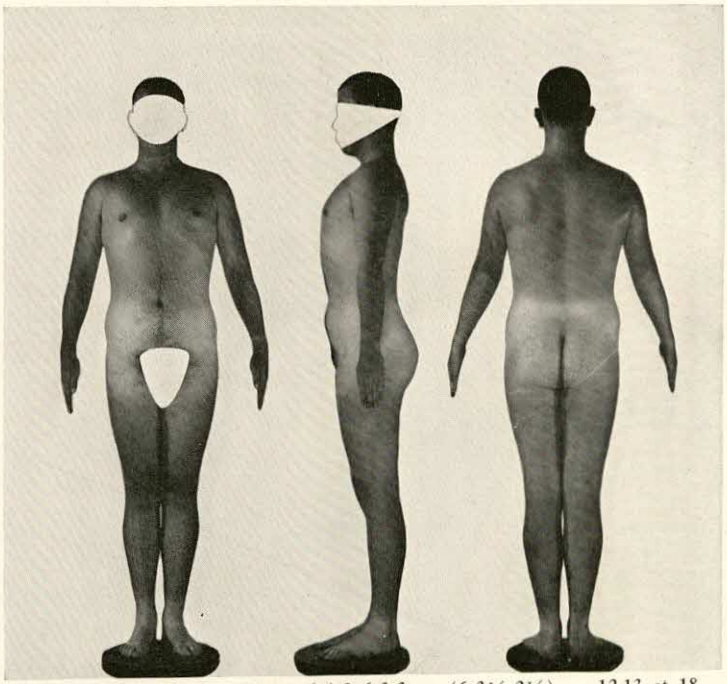


No. 1130 *6 4 2* (*2*) 6 4 2–6 4 2 11.65 at 23
6 4 2, 6 4 2, 6 4 2, 6 4 2, 6 4 2

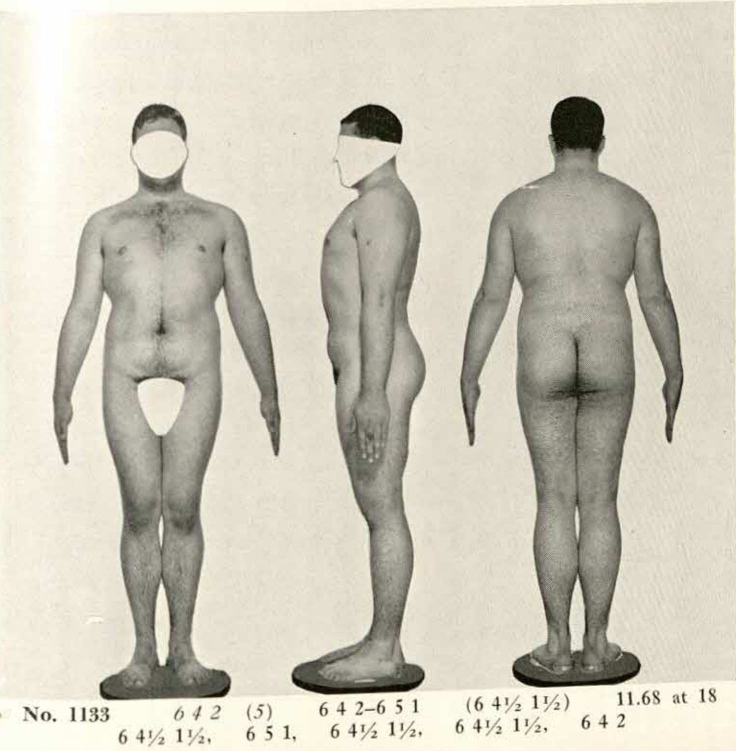


No. 1131 *6 4 2* (*3*) 6 4 2–6 4 2 10.82 at 53
6 4 2, 6 4 2, 6 4 1, 6 4 2, 6 3½ 2

642

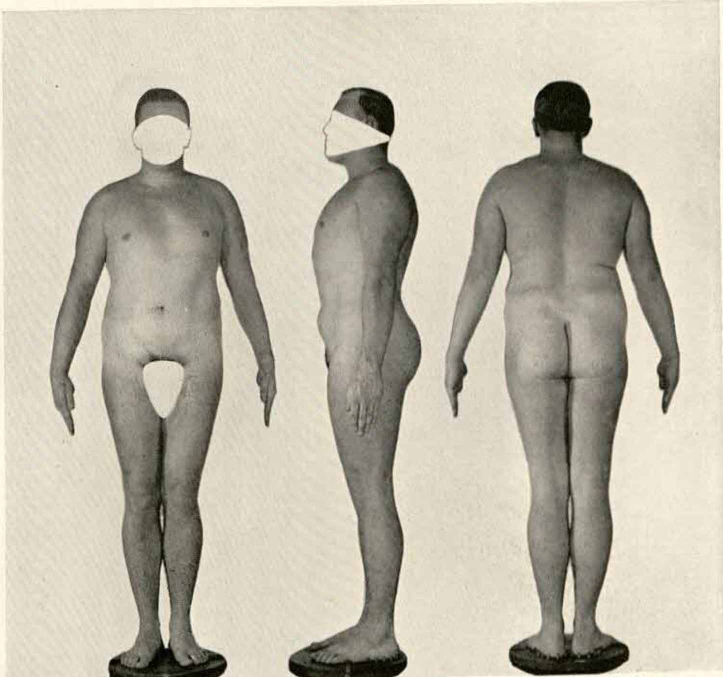


No. 1132 *6 4 2* (*4*) 6 4 2–6 3 3 (6 3½ 2½) 12.13 at 18
5½ 3 2½, 6 4 1½, 6 3 2½, 6 3½ 2½, 6 3½ 2½

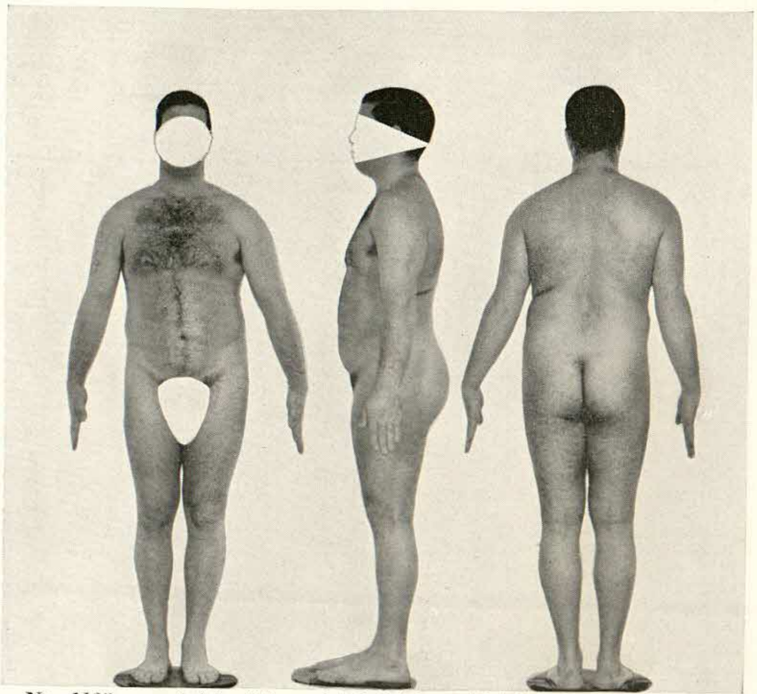


No. 1133 *6 4 2* (*5*) 6 4 2–6 5 1 (6 4½ 1½) 11.68 at 18
6 4½ 1½, 6 5 1, 6 4½ 1½, 6 4½ 1½, 6 4 2

642

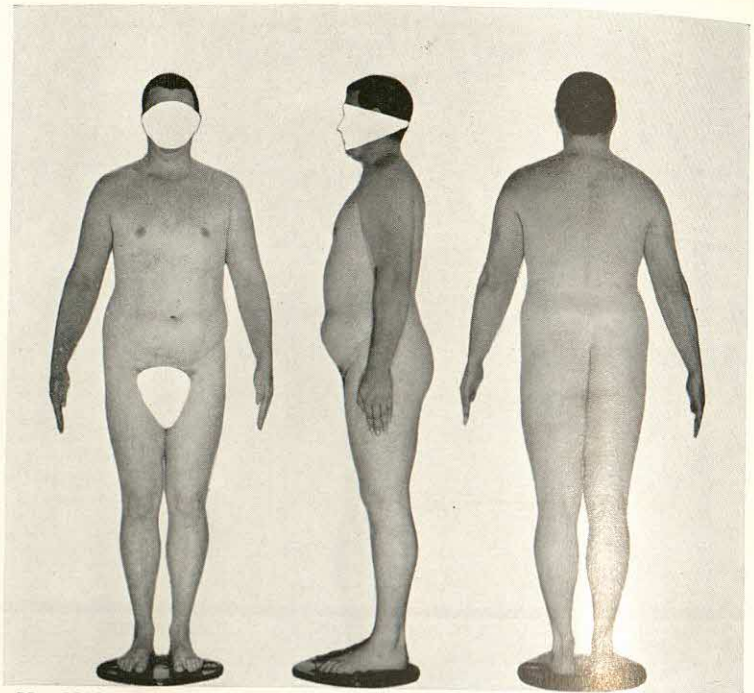


No. 1134 *6 4 2* (*6*) 6 4 2–6 5 1 (6 4½ 1½) 11.46 at 21
6 4½ 1½, 6 5 1, 6 4½ 1½, 6 4½ 1½, 6 4 2

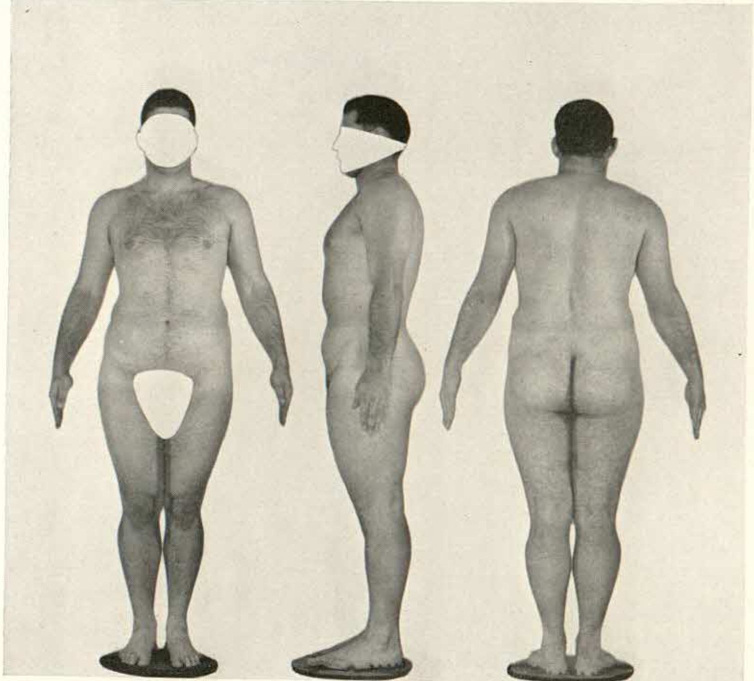


No. 1135 *6 4 2* (7) 6 4 2–6 5 1 (6 4½ 1½) 11.21 at 27
6 4½ 1½, 6 4 2, 6 4½ 1, 6 4 1½, 6 4½ 1½

642

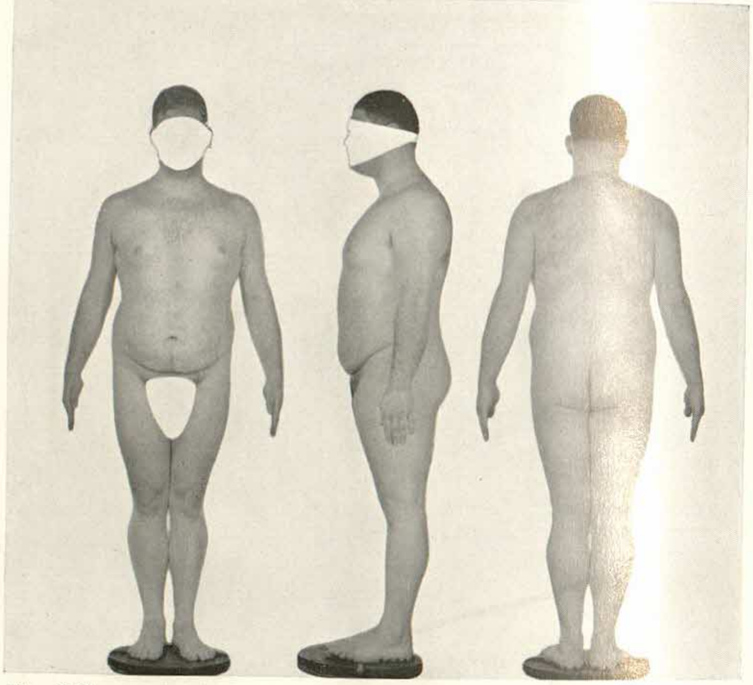


No. 1136 *6 4 2* (*8*) 6 4 2–7 3 2 (6½ 3½ 2) 11.61 at 19
6½ 3½ 2, 6½ 3 2, 6½ 3½ 1½, 6½ 3 2, 6½ 3½ 2

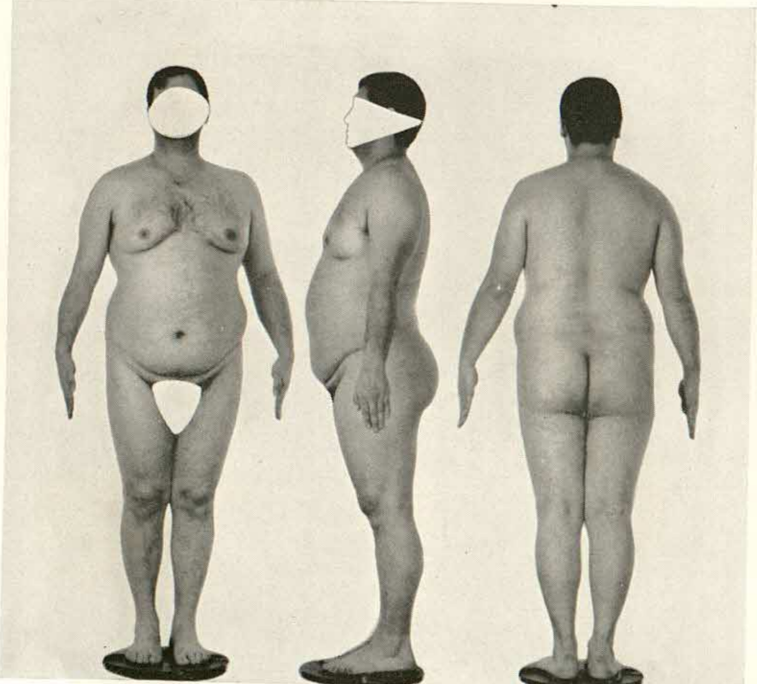


No. 1137 *6 4 2* (*9*) 6 4 2–7 4 1 (6½ 4 1½) 11.39 at 19
6½ 4 1½, 6½ 4 1½, 6½ 4 1½, 6½ 4 1½, 7 4 1

642



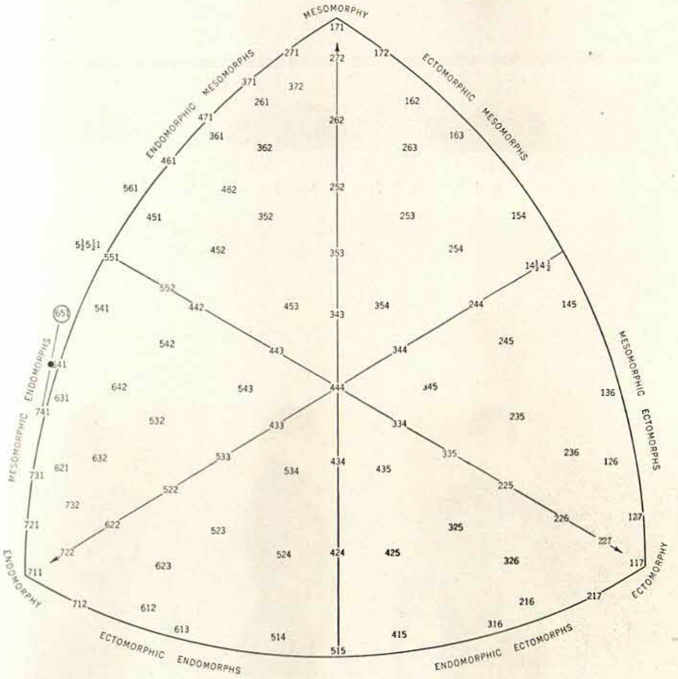
No. 1138 *6 4 2* (*10*) 6 4 2–7 4 1 (6½ 4 1½) 10.95 at 23
6½ 4 1½, 6½ 4½ 1½, 6½ 4 1½, 6½ 4 1½, 6½ 4 1½

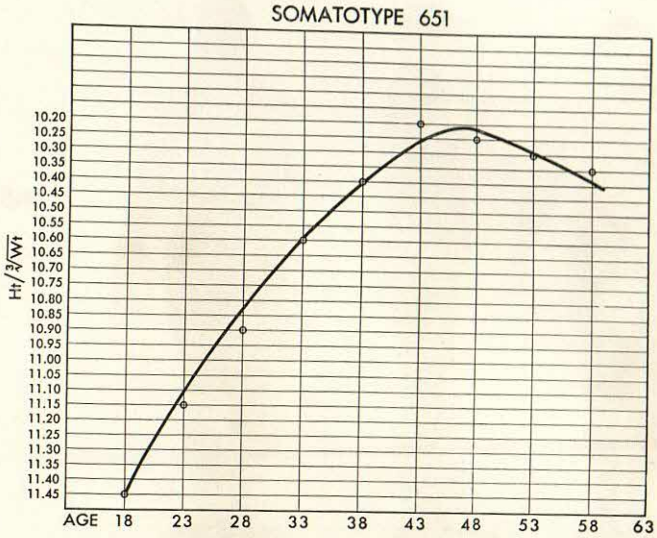


No. 1139 *6 4 2* (*11*) 6 4 2–7 4 1 (6½ 4 1½) 10.40 at 34
6½ 4 1½, 6½ 4 1½, 6½ 3 1½, 6½ 4 1½, 7 4 1

39. A HIPPOPOTAMUS

Somatotype 6 5 1 *(Mesomorphic extreme endomorphy at extreme ectopenia, 12-level.) The hippopotamus. A fabulously ectopenic quadruped who is related to the hogs but his name in Greek means river horse. He spends most of his time in the water, feeds on aquatic plants. Nos. 1140–1146.*





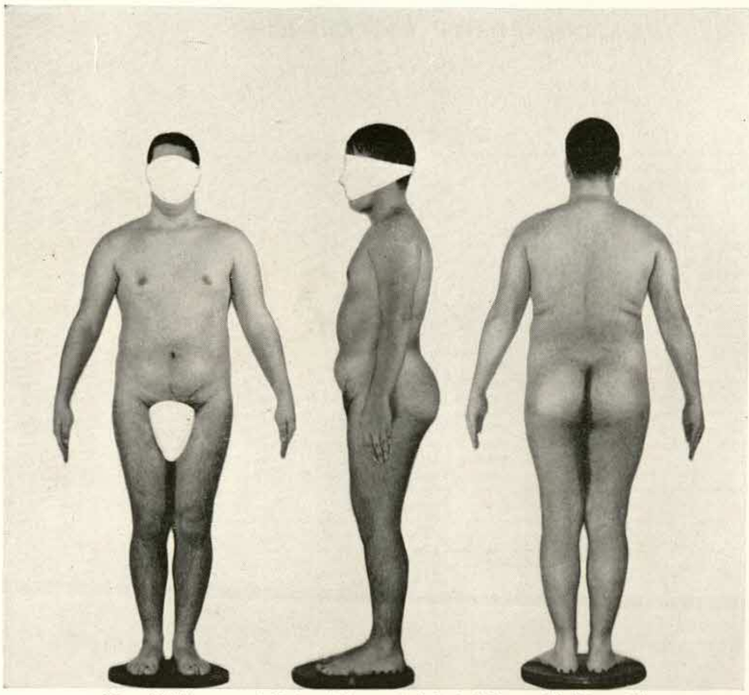
Weight for Age and Height

Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	282	304	327	352	373	396	393	387	380	..
74	270	289	312	338	359	382	378	373	366	..
73	260	277	300	324	345	368	363	359	352	..
72	249	266	288	311	331	353	349	344	338	..
71	238	256	277	298	316	339	335	330	323	..
70	229	246	266	286	302	325	321	317	310	..
69	219	236	255	274	289	310	307	303	296	..
68	209	226	243	262	277	296	282	288	283	..
67	200	216	233	250	264	281	279	275	270	..
66	191	206	222	239	253	268	266	262	257	..
65	183	197	213	228	241	256	254	251	246	..
64	174	188	203	218	231	245	243	239	235	..
63	167	179	193	208	220	233	232	228	224	..
62	159	171	185	199	210	223	221	218	216	..
61	152	163	176	189	200	212	210	208	205	..

Rarity 5. Incidence 5 per ten thousand. The rarest of the four excessively ectopenic somatotypes which mass a total strength of 11 in the first two components against the minimal 1 in the third. The other three are the 5 6 1, the 4 7 1 and the 7 4 1. Collectively, these four somatotypes make up about seven thousandths of the male population, which means that there should be somewhat more than half a million of them in the United States. This seems quite a large quantity of ectopenic flesh, particularly when we consider nature's comparative inability to tolerate the extremes of mesopenia and endopenia. The maximal massing of component strength that we have found against the 1 in mesomorphy is 10 (in the 5 1 5); and against the 1 in endomorphy the maximal strength appears to be 9 (as in the 1 4 5 and 1 5 4).

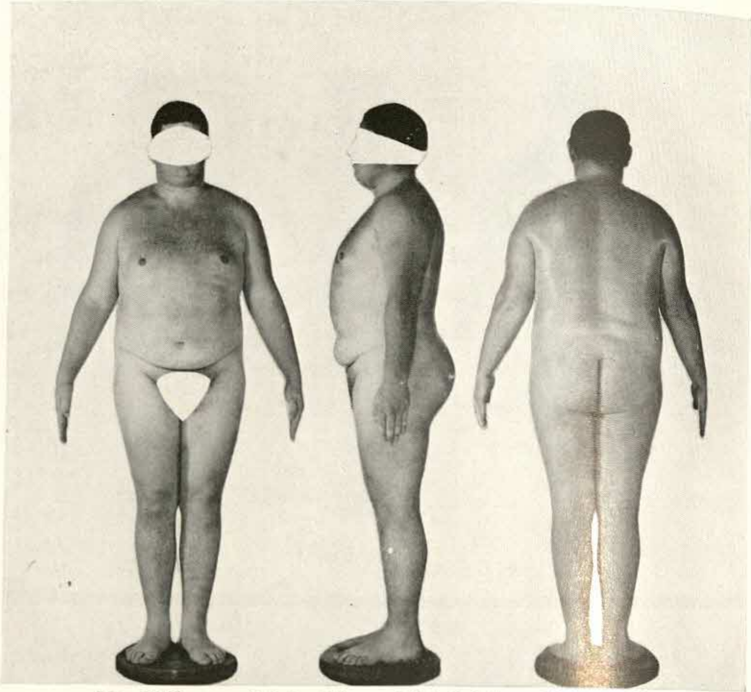
But despite nature's minor delinquencies in the South and the Northeast she does tolerably well by the human species. If sometime you find yourself doubtful about the ultimate fate of man, and in need of reassurance as to the vastness of his biological resourcefulness or capacity for further adaptability, try to contemplate the enormous range of adaptive potentiality that must inhere in such radically different somatotypes as the 6 5 1 and the 1 4 5. Then recall that these two represent only two points in a far-flung, continuous extension in three dimensions. Perhaps we do well to carry the great range of somatotype variation that this present culture appears to afford. Therein may lie the best insurance against an untimely ending of the human play.

The nutrition curve for the 6 5 1 is steep, and biological old age seems to come early. At any rate there is an early tendency to jettison weight. But it does not follow that loss of weight contraindicates long life. It *may* be on the contrary only good sense.

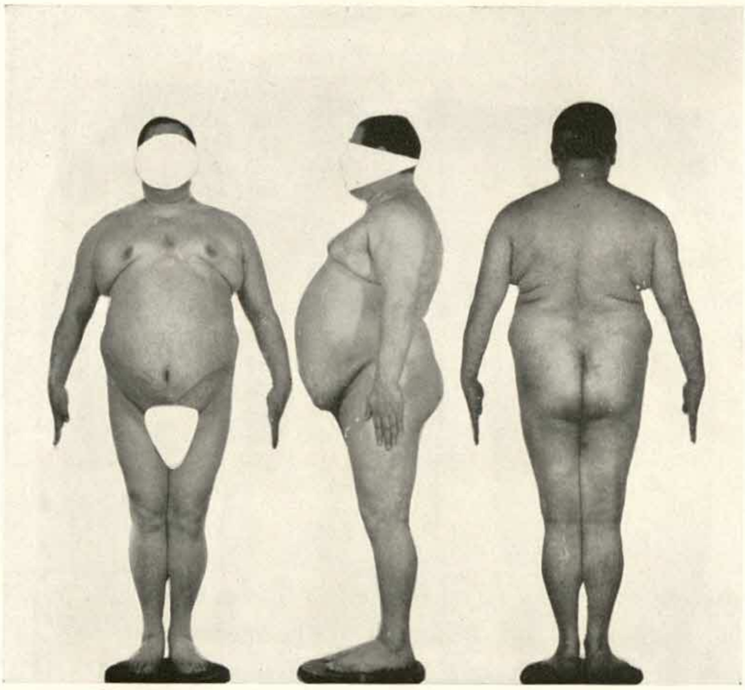


No. 1140 *6 5 1* (*1*) 6 5 1–6 5 1 11.45 at 18
6 5 1, 6 4½ 1½, 6 4½ 1, 6 5 1, 6 5 1

651

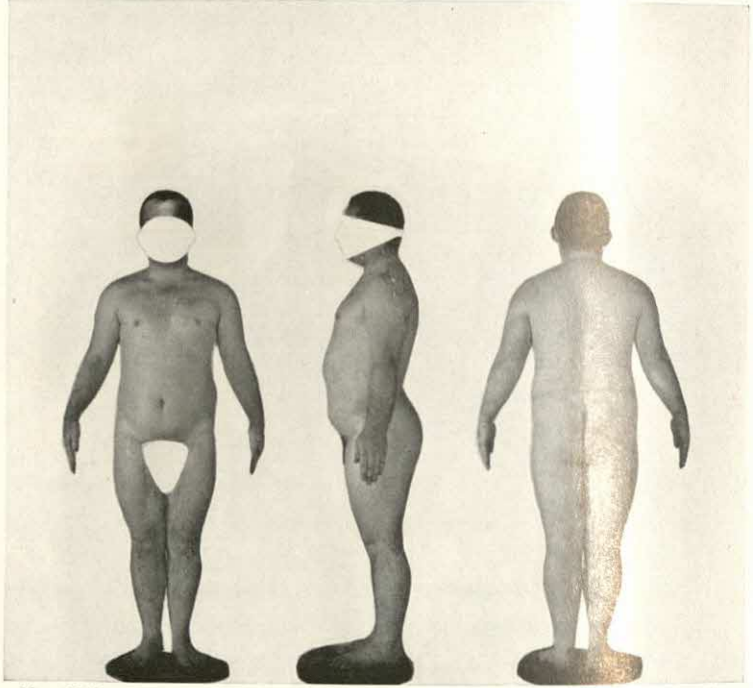


No. 1141 *6 5 1* (*2*) 6 5 1–6 5 1 10.90 at 26
6 5 1, 6 5 1, 6 4½ 1, 6 5 1, 6 4½ 1

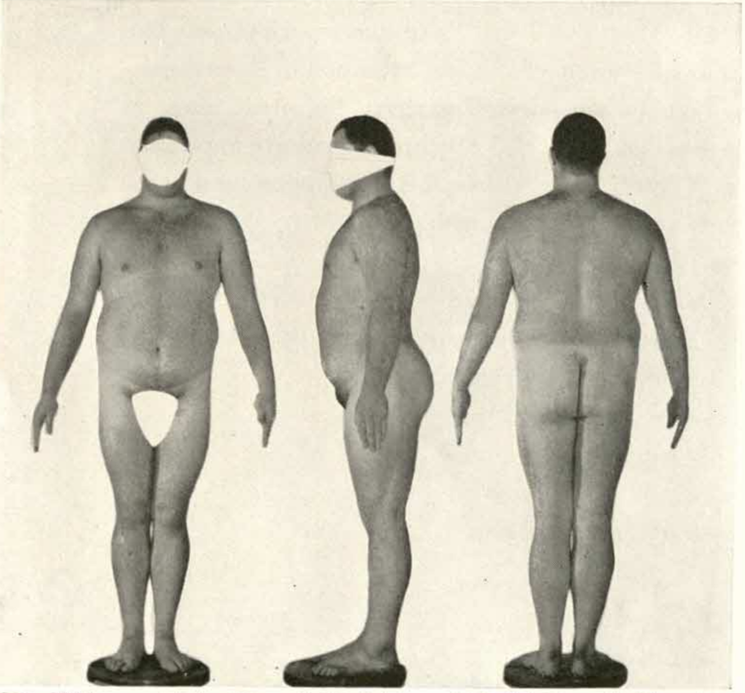


No. 1142 *6 5 1* (*3*) 6 5 1–6 5 1 10.18 at 43
6 5 1, 6 5 1, 6 5 1, 6 5 1, 6 5 1

651

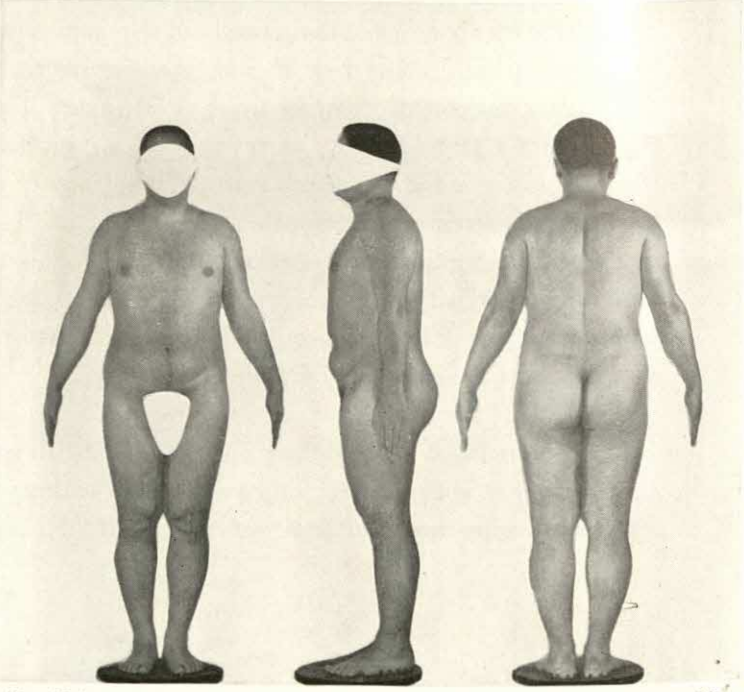


No. 1143 *6 5 1* (*4*) 6 5 1–7 4 1 (6½ 4½ 1) 11.16 at 18
6½ 4½ 1, 6 4½ 1½, 6½ 4½ 1, 6½ 4½ 1, 7 4 1



No. 1144 *6 5 1* (*5*) 6 5 1–7 4 1 (6½ 4½ 1) 11.11 at 19
6½ 4½ 1, 6 5 1, 6½ 4½ 1, 6½ 4½ 1, 6½ 4½ 1

651



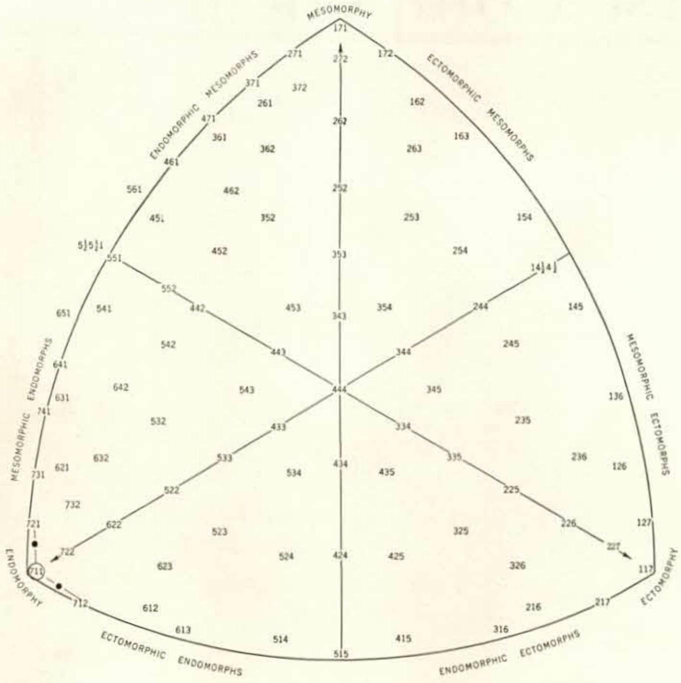
No. 1145 *6 5 1* (*6*) 6 5 1–7 4 1 (6½ 4½ 1) 11.09 at 19
6 5 1, 6½ 4½ 1, 6½ 4 1½, 6½ 4½ 1, 6½ 4½ 1

12

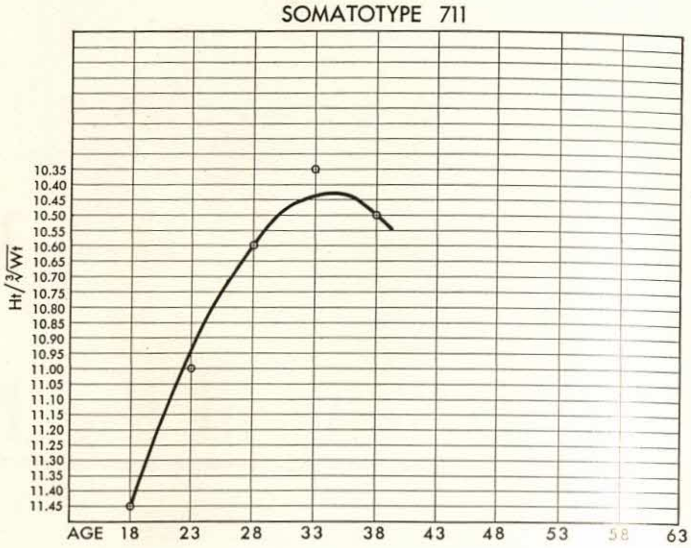
Sevens in the First Component

40. MANATEES AND DUGONGS. THE MERMAIDS

Somatotype 7 1 1 *(Polar endomorphy, 9-level.) The American manatee-siren, or mermaid. A round-bodied, broad-tailed, harmless aquatic mammal who belongs to the order of the sirens* (sirenia) *and is the original mermaid. He lives on aquatic plants in shallow estuaries. Out of water, almost as helpless as a jellyfish. Nos. 1147–1149.*



Rarity 5. Incidence 1 per ten thousand. This polar rarity shares with the 5 1 5 the distinction of being so *excessively* rare that at times there has been doubt as to the reality of his normal presence. We feel, however, that the 7 1 1 is legitimately included in the series, for at least we have acceptable examples of him taken from a population *considered* normal. In the mental hospitals and in various institutions for the incompetent or feebleminded, the 7 1 1 is seen with greater frequency. This is true in general of all the extreme mesopenes from down under. With the second component at the level of 1, the competitive struggle in this transitional human world presents certain difficulties, especially for the male.

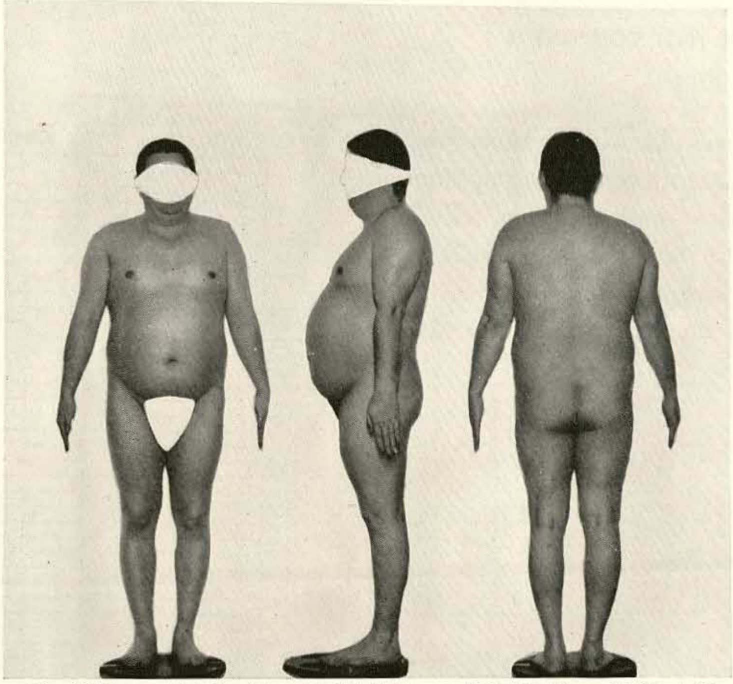


Weight for Age and Height

Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	281	316	352	383	365	..	..	..	..	..
74	270	302	338	367	350	..	..	..	..	..
73	259	289	325	353	336	..	..	..	..	..
72	249	278	311	339	322	..	..	..	..	..
71	238	267	298	326	309	..	..	..	..	..
70	228	256	286	312	296	..	..	..	..	..
69	219	245	274	298	280	..	..	..	..	..
68	209	235	262	285	273	..	..	..	..	..
67	200	225	250	272	260	..	..	..	..	..
66	191	215	239	259	247	..	..	..	..	..
65	182	205	228	248	236	..	..	..	..	..
64	174	196	218	236	226	..	..	..	..	..
63	166	187	208	225	215	..	..	..	..	..
62	158	178	199	215	205	..	..	..	..	..
61	151	170	189	206	196	..	..	..	..	..

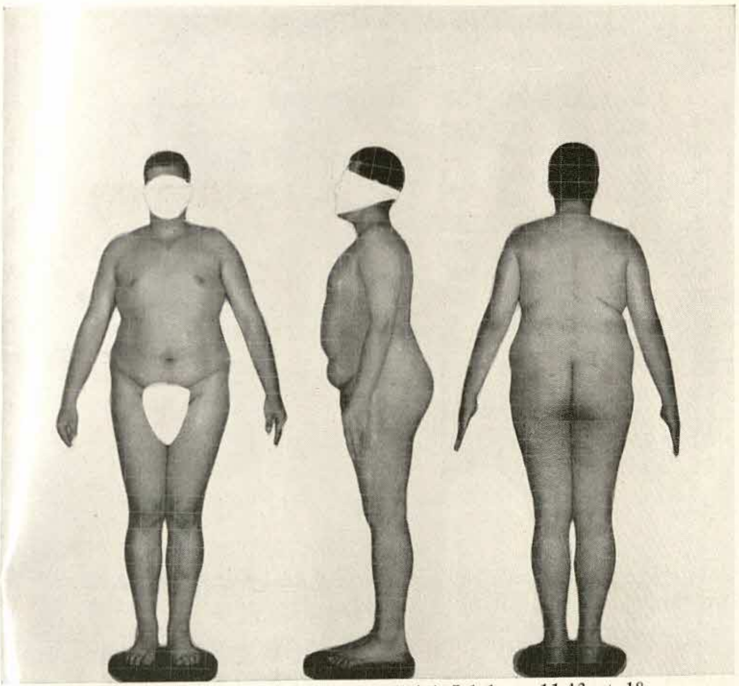
A 7 1 1 trying to get along in the normal competitive rackets of human society, without some special cultural advantage such as wealth or influential friends, is not unreasonably comparable to a manatee-mermaid out of water. Among the children confined in the New York State Home for the feebleminded, the 7 1 1 is not an extreme rarity. This may not mean that children of such a somatotype are naturally of low intelligence but that, being a 7 1 1, one needs *more* intelligence in order to get by.

All of the 7's in endomorphy, collectively, make up about 1 per cent of the male population. In our original ordering of the somatotypes of the 4000 college boys for the early study published as *The Varieties of Human Physique*, we had that figure nearly right, but listed only four (instead of seven) different somatotypes in this group.

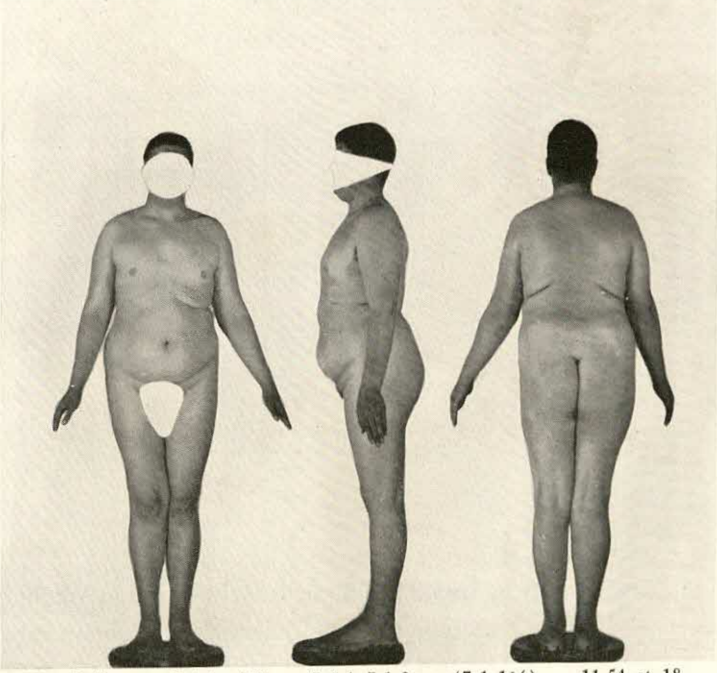


No. 1146 *6 5 1* (*7*) 6 5 1–7 4 1 (6½ 4½ 1) 10.61 at 25
7 4 1, 6½ 4½ 1, 6½ 4 1, 6½ 4½ 1, 6 4½ 1½

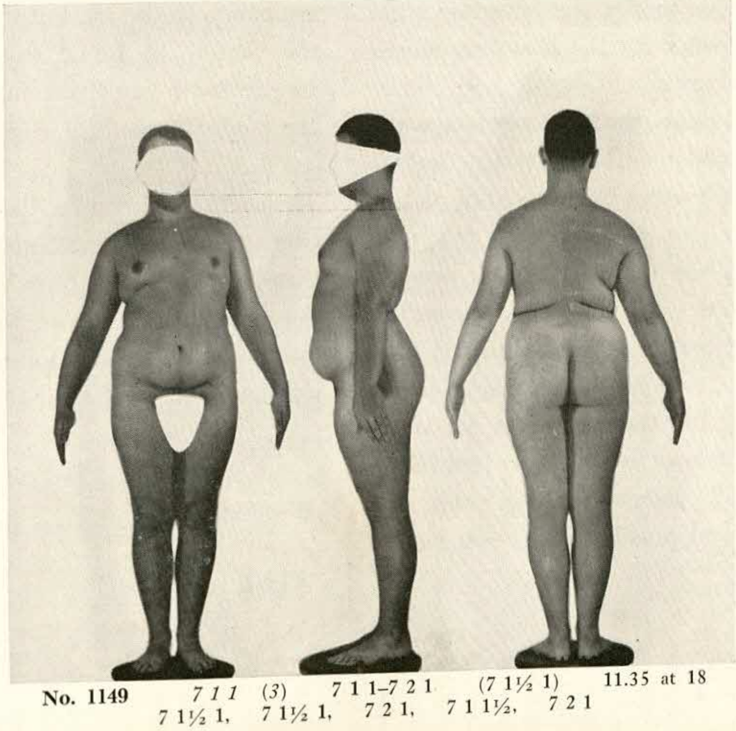
711



No. 1147 *7 1 1* (*1*) 7 1 1–7 1 1 11.43 at 18
6½ 1 1½, 7 1 1, 7 1 1½, 7 1 1, 7 2 1

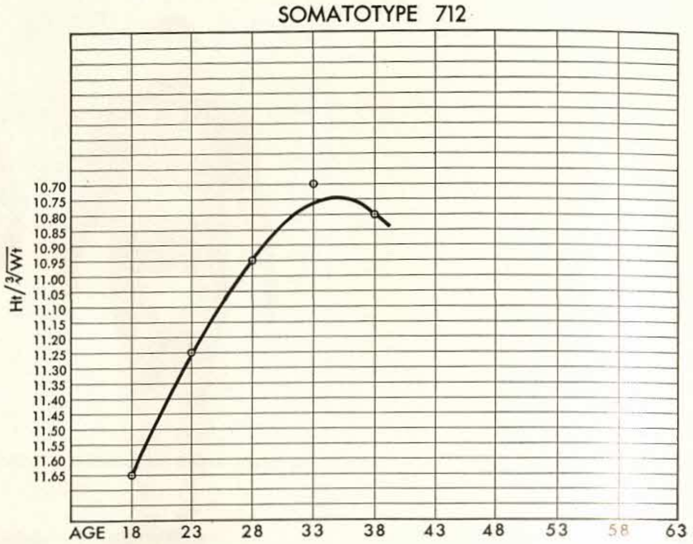


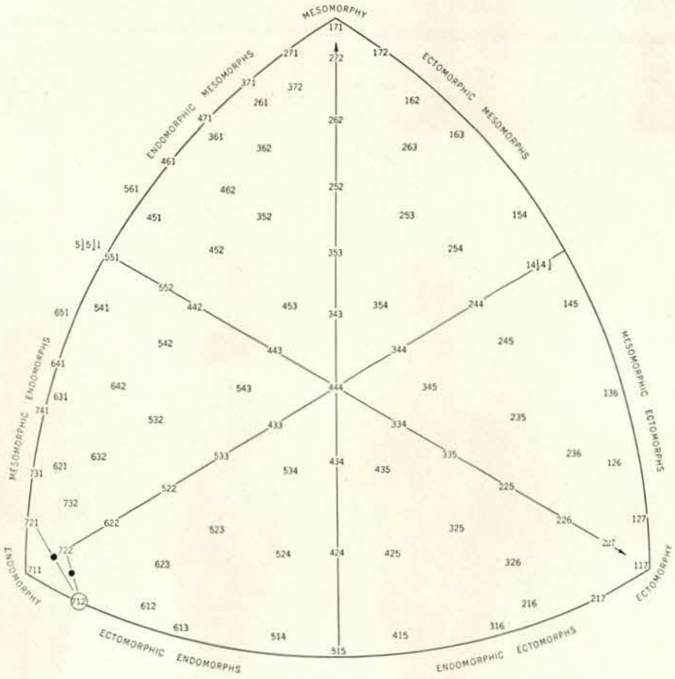
No. 1148 *7 1 1* (*2*) 7 1 1–7 1 2 (7 1 1½) 11.54 at 18
7 1 1½, 7 1 1½, 7 1 1½, 7 1 1½, 7 1 1½



No. 1149 *7 1 1* (*3*) 7 1 1–7 2 1 (7 1½ 1) 11.35 at 18
7 1½ 1, 7 1½ 1, 7 2 1, 7 1 1½, 7 2 1

Somatotype 7 1 2 *(Ectomorphic polar endomorphy at extreme mesopenia, 10-level.) Australian dugong-siren, a larger, more linear mermaid with a longer tail. The manatees and dugongs are innocent, affectionate, viscerotonic mammals who are gregarious and love their wives and children most demonstratively. Nos. 1150–1153.*





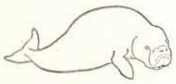
Weight for Age and Height

Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	267	295	323	342	336	..	..	..	..	..
74	256	284	307	328	329	..	..	..	..	..
73	245	273	294	315	310	..	..	..	..	..
72	236	262	283	302	296	..	..	..	..	..
71	226	251	272	289	284	..	..	..	..	..
70	217	239	261	277	272	..	..	..	..	..
69	208	230	251	266	261	..	..	..	..	..
68	199	220	240	254	250	..	..	..	..	..
67	190	210	229	243	238	..	..	..	..	..
66	182	200	219	232	228	..	..	..	..	..
65	174	191	210	222	218	..	..	..	..	..
64	166	183	200	213	208	..	..	..	..	..
63	158	174	191	203	199	..	..	..	..	..
62	151	166	182	193	190	..	..	..	..	..
61	144	158	174	184	181	..	..	..	..	..

Rarity 5. Incidence 3 per ten thousand. Another very rare somatotype from down under, but not so rare that there has been any doubt as to its normal existence. Everybody knows at least one 7 1 2 with his bag-of-jelly body which quivers when he moves, his uncertain legs that are too long and too weak for the heavy responsibility above, the helpless arms and hands with their "double" (hyperextensible) joints, the big saggy face with the weak jaws and the small mouth, and (sometimes) the rather slender neck which seems entirely out of place.

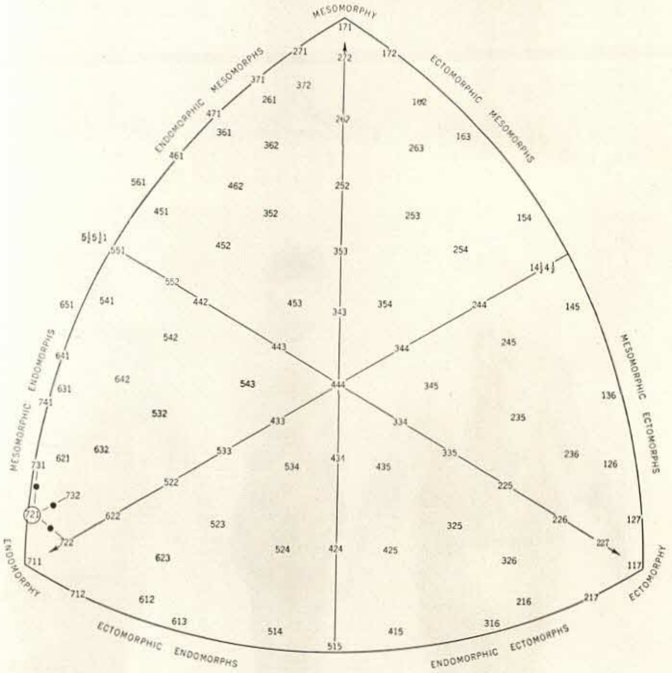
This is a female somatotype in the sense that it occurs more often, certainly five times as often, in women as in men. Indeed, all of the mesopenes of the Southwest are female somatotypes, as the mesomorphs of the Northeast are male somatotypes. But the male does not stay within the boundaries of his own backyard as faithfully as the female, and the 7 1 2 presents a case in point. As a female this is a viable, and possibly under some circumstances a comfortable pattern. Its permutant the 1 7 2 is wholly masculine. So far as we know, or can imagine, there never was a human female even remotely approaching the 1 7 2. The women stay away from the masculine Northeast. But the men do not reciprocate, and they are to be found thinly scattered all through the female Southwest like refugees, as it were, hiding out in the lands reserved for women.

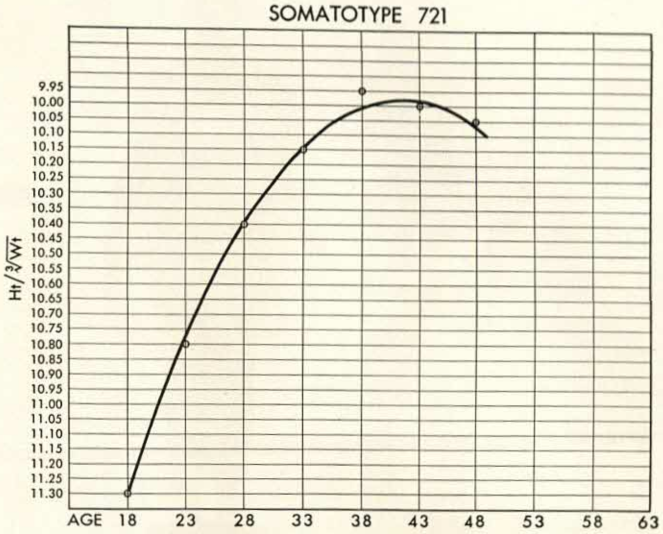
The nutrition curves for the two *sirenia* somatotypes indicate quick weight gain to a very early maximum, and then a sharp falling off which appears to begin even in the early thirties. Those polar endomorphs who live on into the later decades almost certainly do so by virtue of jettisoning some of their fat.



41. TOOTHLESS WHALES

Somatotype 7 2 1 *(Mesomorphic polar endomorphy at extreme ectopenia, 10-level.) The Right whale. Large and blubbery, but wholly inoffensive. A baleen whale has no teeth, strains sea water through the whalebone in his upper jaw for his animalcule diet. Can fight only by slapping with his fin or tail. Nos. 1154–1162.*





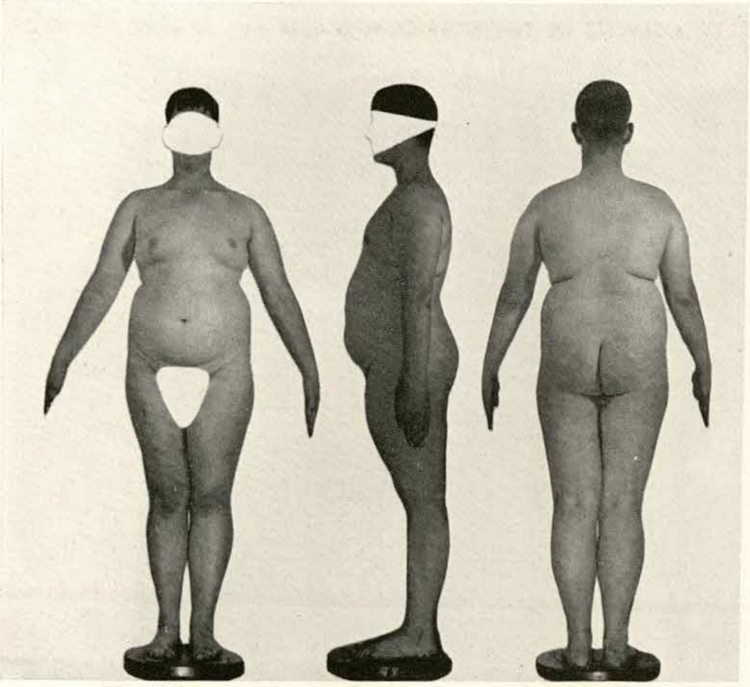
Weight for Age and Height

Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	292	334	373	402	427	423	414	..	..	..
74	281	321	358	386	409	406	398	..	..	..
73	270	308	344	370	393	390	384	..	..	..
72	259	296	330	355	377	374	367	..	..	..
71	248	283	316	341	361	359	351	..	..	..
70	238	271	303	327	346	344	337	..	..	..
69	228	260	291	313	331	329	323	..	..	..
68	218	249	278	293	317	315	309	..	..	..
67	208	238	265	285	304	302	295	..	..	..
66	199	228	254	272	289	288	283	..	..	..
65	190	218	242	260	276	275	270	..	..	..
64	182	208	232	249	264	263	257	..	..	..
63	173	198	221	237	253	251	246	..	..	..
62	165	188	211	227	240	239	234	..	..	..
61	157	179	201	216	230	228	223	..	..	..

Rarity 5. Incidence 7 per ten thousand. The last of our rarity 5 somatotypes, which as a group represent the extreme fringes of the distribution, and particularly those fringes lying close to the poles. As mesomorphy rises in the polar endomorphic somatotypes, we move away from the pole itself in the direction of the populous Northwest, and with this progression rarity decreases.

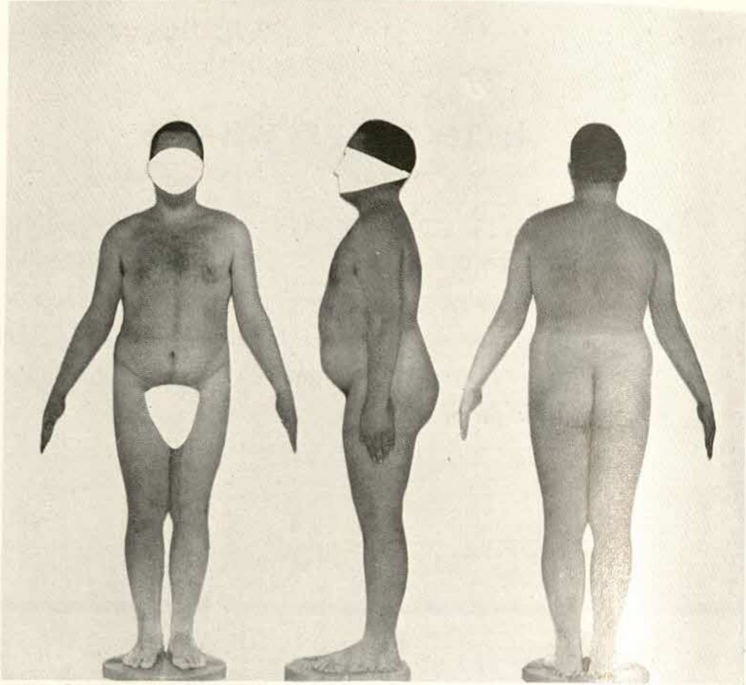
These polar endomorphs seem not as a rule to be heavy eaters. Few of them eat more than the average person, and I think it is safe to guess that as many as six or seven in every ten watch their diet with a degree of care and eat *less* than the average person. Endomorphy predisposes the individual to a rounded form of bodily structure, and predisposes him to translate food into fat, which then tends to accumulate. The endomorph seems to have a preponderant digestive apparatus, but there is more than that to getting fat. He also is relatively free from the energy demands imposed on a mesomorph by the latter's active muscular system, and from the drain on energy resulting from the inevitable emotional turmoil of the biologically extraverted (ectomorphic) people. Thus the endomorph gets it (his fat) both coming and going. He seems to make the most of the food that comes in, and he is parsimonious of its expenditure as energy.

But endomorphs are normally intelligent. They *see* themselves getting fat, and almost invariably are told that this is because they overeat. Then they diet. Perhaps one or two in ten of the polar endomorphs are exceptions and let their natural craving for food run wild. These burgeon like a grain of popcorn and are short lived.

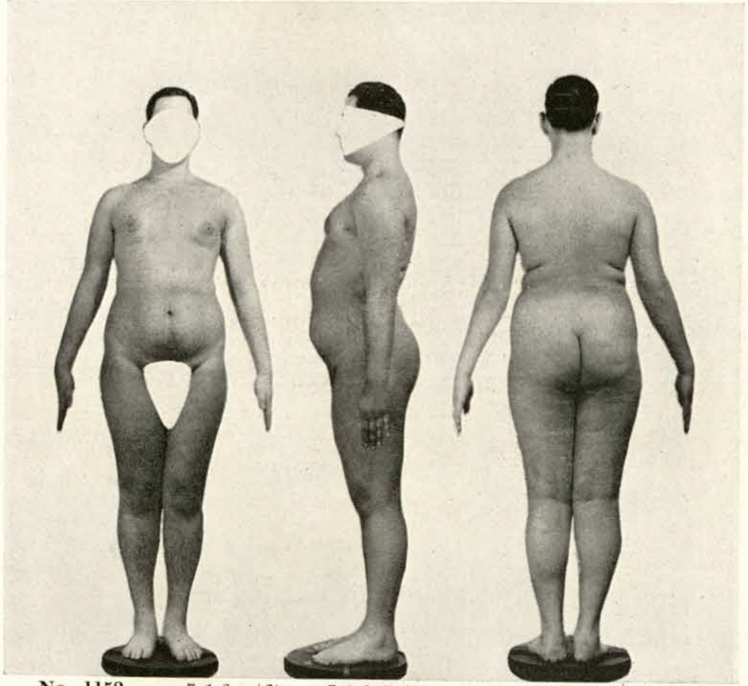


No. 1150 *7 1 2* (*1*) 7 1 2–7 1 2 11.67 at 17
6½ 1 2½, 7 1 2, 7 1½ 2, 7 1 2, 7 1½ 1

712

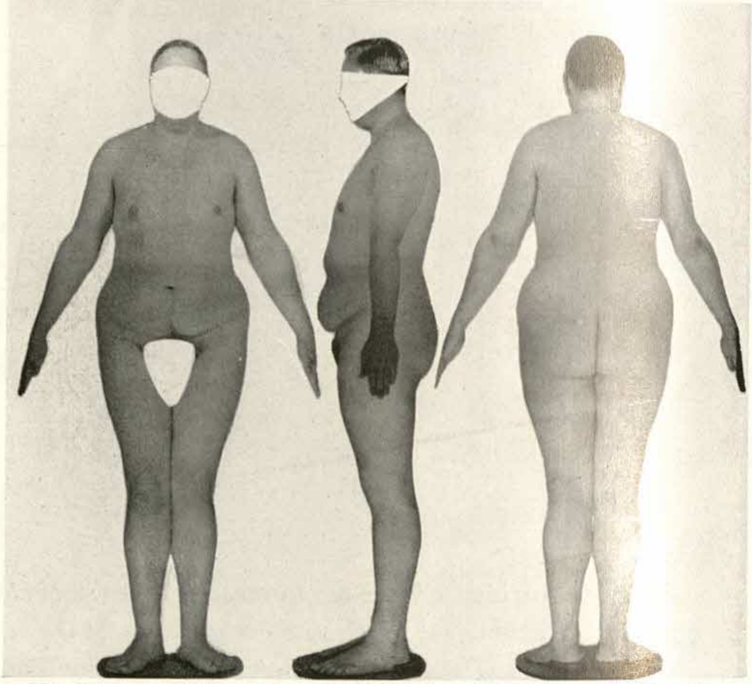


No. 1151 *7 1 2* (*2*) 7 1 2–7 2 1 (7 1½ 1½) 11.31 at 20
7 1½ 1½, 7 1 1½, 7 1 1½, 7 1½ 1½, 7 2 1

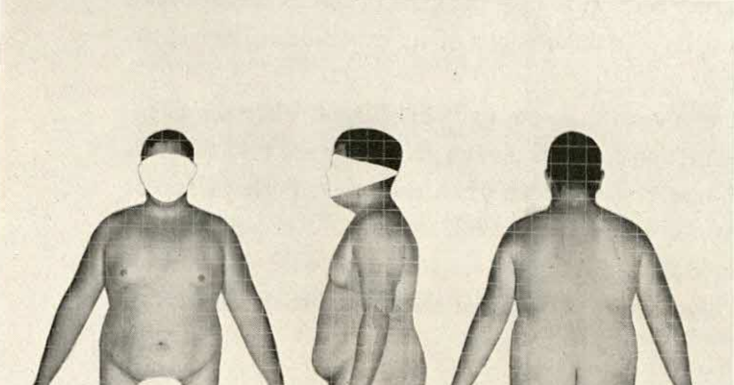


No. 1152 *7 1 2* (*3*) 7 1 2–7 2 2 (7 1½ 2) 11.55 at 18
7 1 2, 6½ 1½ 2, 7 1½ 2, 7 1 2, 7 2 1½

712

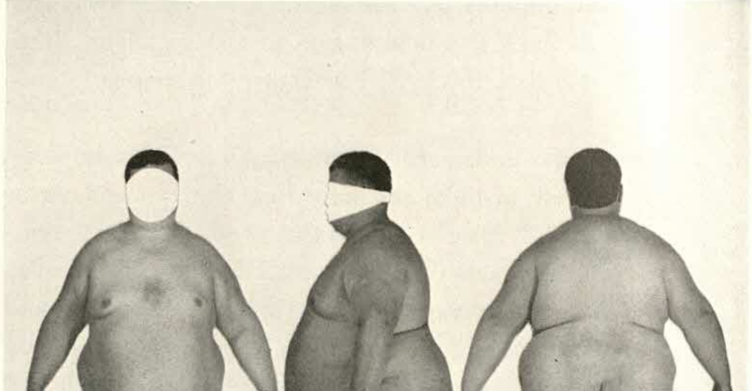


No. 1153 *7 1 2* (*4*) 7 1 2–7 2 2 (7 1½ 2) 11.42 at 20
7 1½ 1½, 7 1½ 2, 7 1½ 2, 7 1½ 2, 7 1½ 2

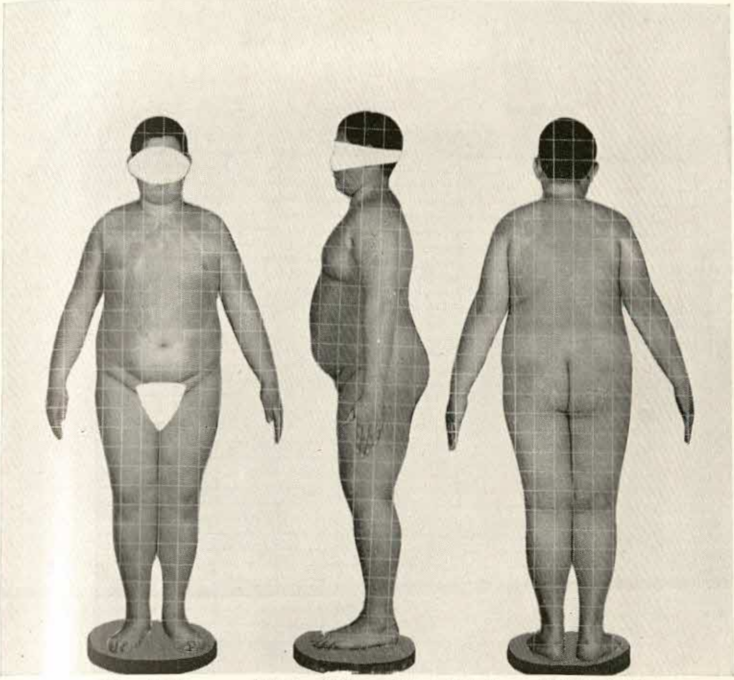


No. 1154 *7 2 1* (*1*) 7 2 1–7 2 1 11.32 at 18
7 2 1, 7 2 1, 7 2 1, 7 2 1, 7 2 1½

721

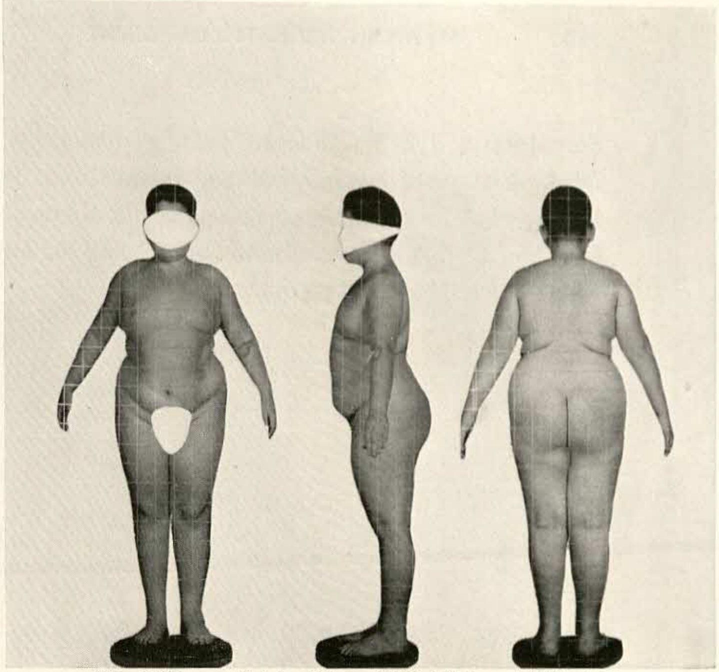


No. 1155 *7 2 1* (*2*) 7 2 1–7 2 1 9.10 at 39
7 2 1, 7 2 1, 7 2 1, 7 2 1, 7 2 1

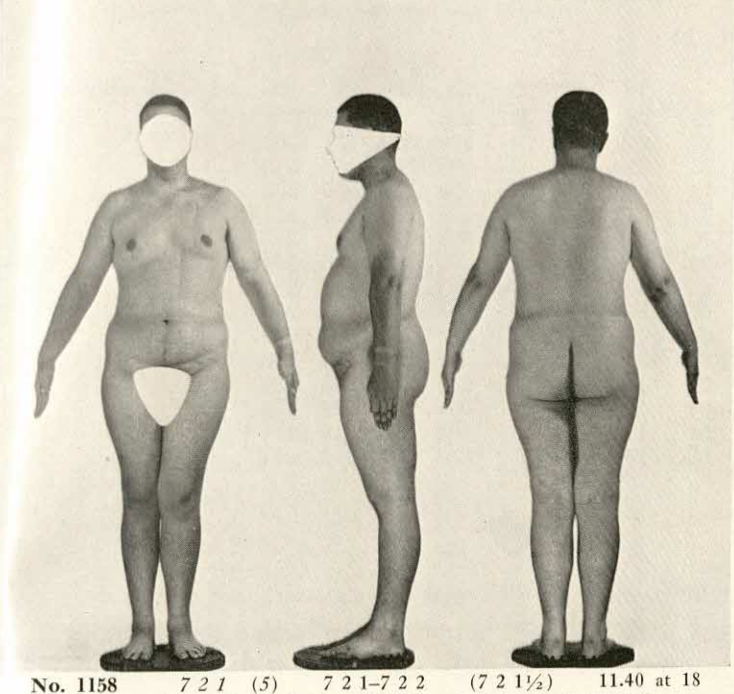


No. 1156 *7 2 1* (*3*) 7 2 1–7 2 1 10.82 at 13

721

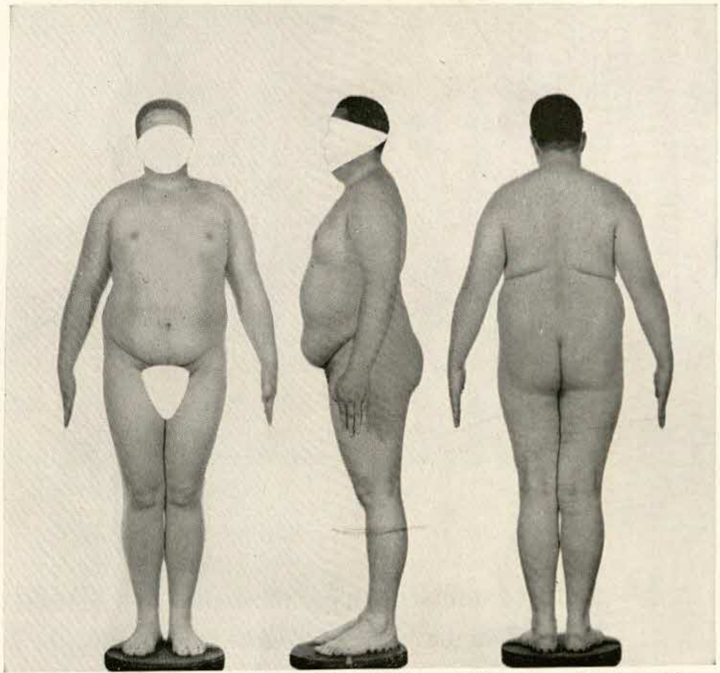


No. 1157 *7 2 1* (*4*) 7 2 1–7 2 1 11.30 at 11

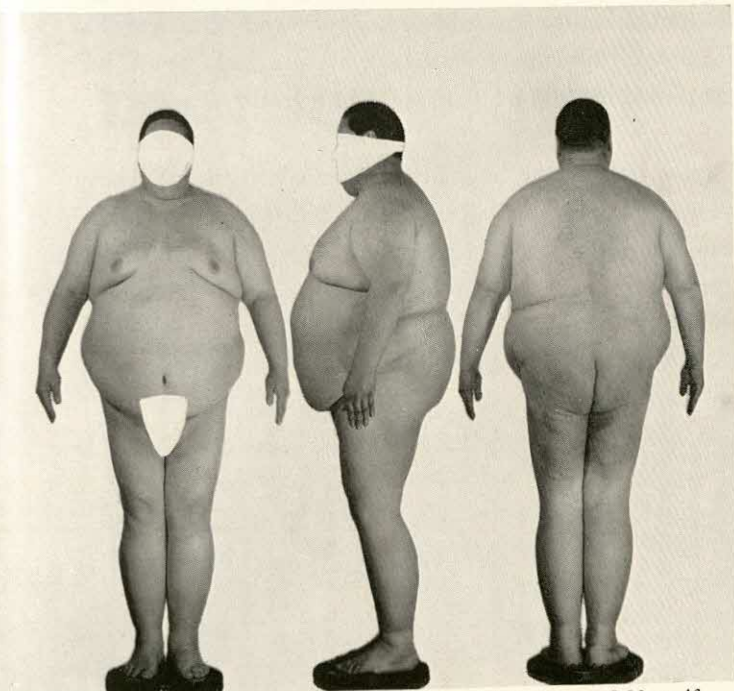


No. 1158 *7 2 1* (*5*) 7 2 1–7 2 2 (7 2 1½) 11.40 at 18
6½ 2 1½, 6½ 2½ 1½, 7 2 1½, 7 2 1½, 7 1½ 1½

721

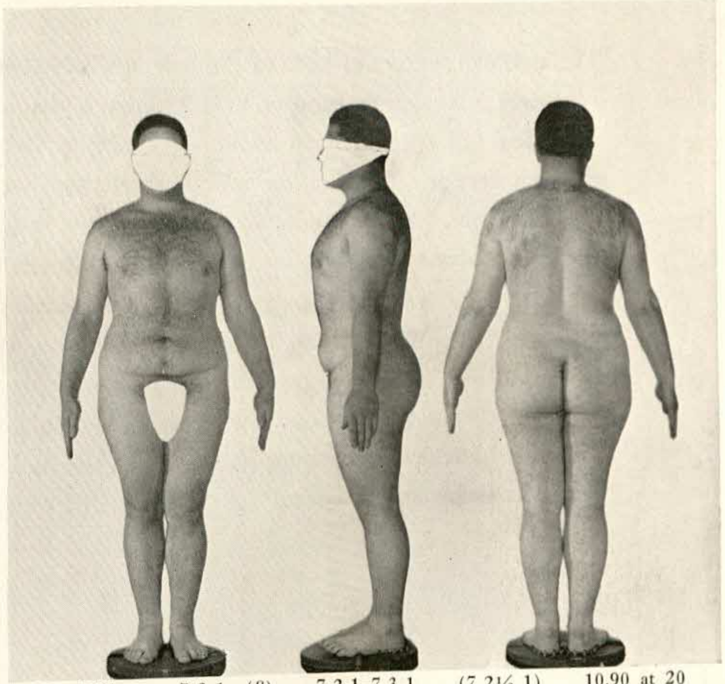


No. 1159 *7 2 1* (*6*) 7 2 1–7 2 2 (7 2 1½) 10.91 at 24
7 2 1, 7 2 1½, 7 2 1½, 7 2 1½, 7 2 1½



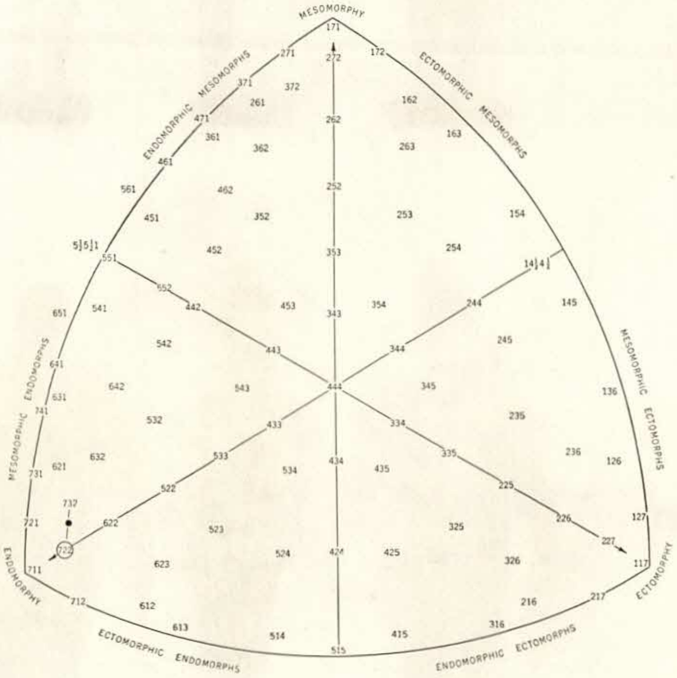
No. 1160 *7 2 1* (*7*) 7 2 1–7 2 2 (7 2 1½) 9.82 at 43
7 2 1, 7 2 1½, 7 2 1, 7 2 1, 7 1½ 2

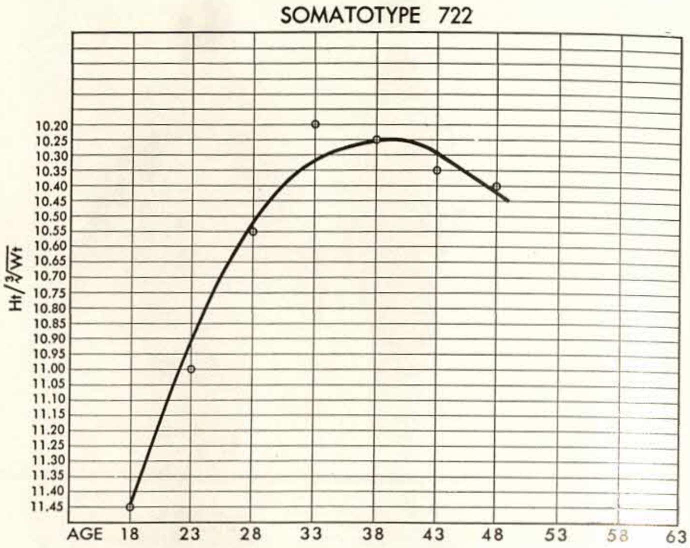
721



No. 1161 *7 2 1* (*8*) 7 2 1–7 3 1 (7 2½ 1) 10.90 at 20
7 3 1, 7 3 1, 7 2½ 1, 7 2½ 1, 7 2½ 1

Somatotype 7 2 2 *(Balanced polar endomorphy, 11-level.) The great sulphur bottom, another and bigger baleen whale, or toothless whalebone whale. He reaches a length of 90 feet, has the distinction of being the largest living animal. Nos. 1163–1164.*





Weight for Age and Height

Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	280	317	357	396	394	383	378	..	..	..
74	269	304	344	380	378	368	363	..	..	..
73	258	292	329	365	363	353	348	..	..	..
72	247	280	316	350	348	339	335	..	..	..
71	237	269	303	335	333	325	321	..	..	..
70	227	258	290	322	319	311	307	..	..	..
69	218	247	278	308	305	298	294	..	..	..
68	208	236	266	295	294	285	281	..	..	..
67	199	226	255	282	279	273	270	..	..	..
66	191	216	244	269	267	261	259	..	..	..
65	182	206	233	257	254	249	246	..	..	..
64	174	197	222	246	241	238	236	..	..	..
63	166	188	212	234	231	227	225	..	..	..
62	158	179	202	223	220	216	214	..	..	..
61	150	170	192	213	209	206	204	..	..	..

Rarity 4. Incidence 2 per thousand. Three times commoner than the extreme ectopene of his family, the 7 2 1, and twenty times commoner than his polar cousin at the 9-level, the 7 1 1.

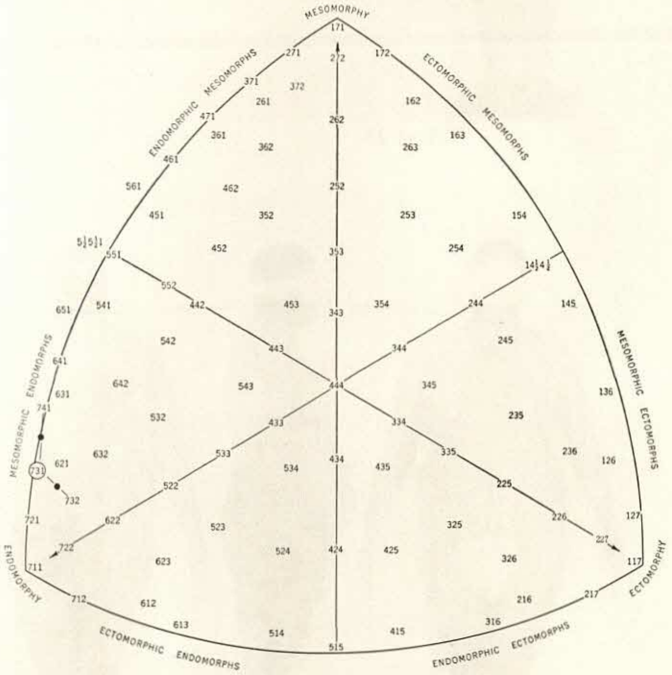
The nutrition curves of both of the baleen whale somatotypes suggest rapid maturation to full weight and an early biological old age which presumably is continued beyond the fifth decade only when the individual jettisons weight quite sharply. Yet our failure in this pilot study to find a rare somatotype represented in the late decades of life is no proof that it is always short lived. In this series we failed to find 7 2 2's in the sixties. That is excellent evidence of their rarity, and probably does not indicate that the somatotype is on the average short lived, but in a complex biological field there is always the unusual one. There may be an occasional 7 2 2 who will live to be eighty.

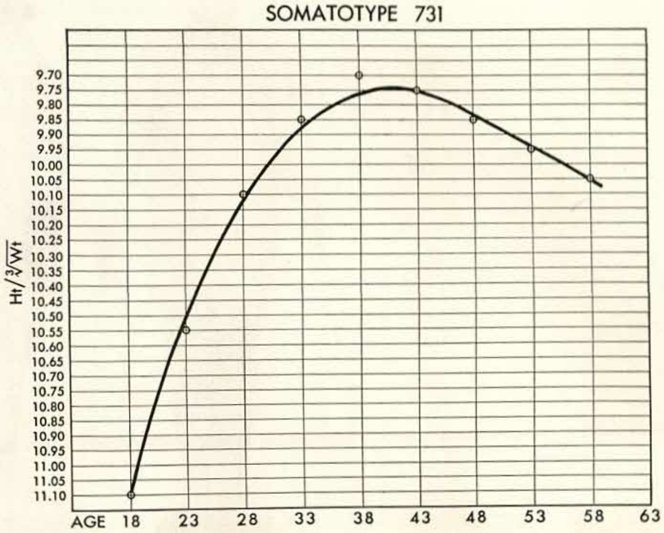
Quite possibly in the series we studied there may have been some older 7 2 2's where we missed the somatotype. It is easy to miss the somatotype if there has been a sharp weight loss and if you lack a good history of the nutritional course the subject has followed. Thus an old 7 2 2, with his almost inevitable weight loss, would be just the one to fool us if we lacked his history.

These are men who have invaded female territory. They are usually hypogenital, are often treated as Froehlich cases, and the effort to change their somatotype by hormone therapy is almost uniformly unpleasant and frustrative to them.

42. WHALES WITH TEETH. THE SPERM WHALES

Somatotype 7 3 1 *(Mesomorphic polar endomorphy at extreme ectopenia, 11-level.) The lesser or pygmy sperm whale. A compact, powerful swimmer who roams the seven seas, has teeth in his lower jaw, and catches his prey—he is more mesomorphic than the baleen whales. Nos. 1165–1170.*





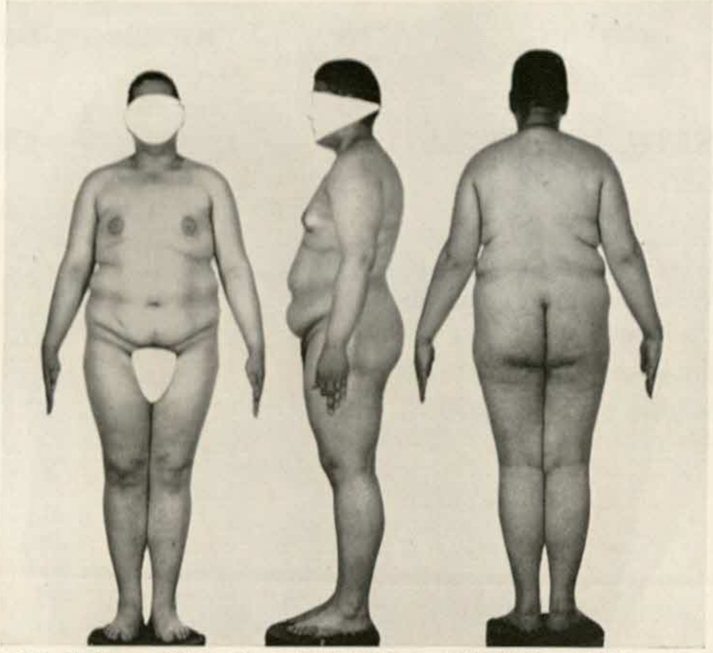
Weight for Age and Height

Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	310	360	405	441	465	457	441	430	417	..
74	298	346	389	424	447	439	424	413	400	..
73	286	332	374	407	429	421	407	396	384	..
72	274	318	358	391	412	404	391	380	368	..
71	263	305	344	375	395	387	375	364	352	..
70	252	292	329	359	378	371	359	349	339	..
69	241	280	315	344	363	356	344	335	325	..
68	231	268	302	329	347	341	329	320	310	..
67	221	257	289	315	332	326	315	307	298	..
66	211	245	276	301	317	311	301	293	282	..
65	202	234	264	288	303	297	288	280	271	..
64	193	224	252	275	290	284	275	267	258	..
63	184	213	240	263	276	271	263	255	247	..
62	175	203	229	250	263	258	250	243	235	..
61	167	193	218	238	251	246	238	231	223	..

Rarity 4. Incidence 1 per thousand. With the last four somatotypes we have completed the review of the Southern or mesopenic belt—the weaklings. When you reach the level of 3 in the second component, even if the 3 has to carry polar endomorphy along with it, you are out of weakling territory and if edible may be in danger. The 7 3 1 is no soft balloon, as are the mesopenic polar endomorphs. Although swamped with blubber, he often has great vital energy and when young may display a certain Rubensian shapeliness suggestive of bounce and hearty well-being. The Rubens somatotype.

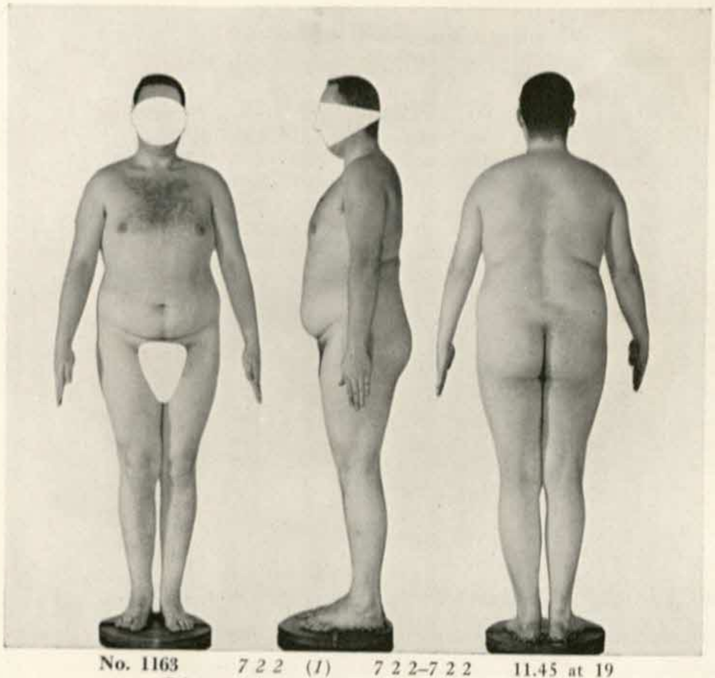
This nutrition curve is steep in the extreme, with a turning point in the late thirties, but the 7 3 1 seems fairly tenacious of life and we have unmistakable proof of his presence at least as late as the sixties—although then at a weight level which takes him back to just about where he was at 30. A 67-inch 7 3 1, weighing about 220 in college, typically puts on 100 pounds or more by the time he is 35, but then he is in serious trouble and he is almost certain to retrench unless he is one of that minority who "don't care." In the latter event he may burgeon another 100 pounds and may almost literally blow up.

What a 7 3 1 *can* do both in the way of adiposity and in the way of retrenchment from obesity is nearly beyond belief. I have known one, at a stature of 69 inches, to reach a weight of 432 pounds at 37. He had eaten like a 2 2 7. After coming to clinical attention and being put on a diet he gradually fell back, in the course of four years, to about 200 pounds, which was 160 pounds below the mean weight for the somatotype. At this low weight he was weak, ineffective and unhappy. Also he was unhealthy, and he died about six years after beginning his regime of dieting. It is possible that this was a case of overdoing the retrenchment.

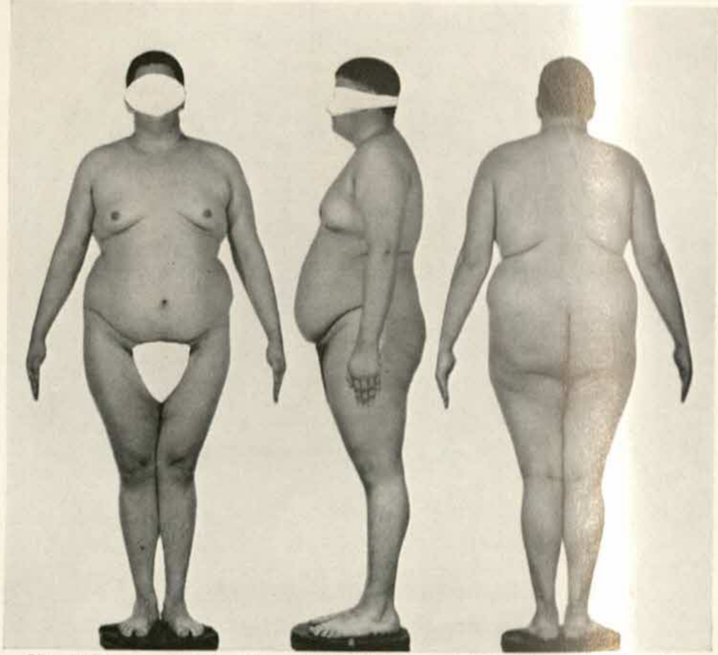


No. 1162 *7 2 1* (*9*) 7 2 1–7 3 2 (7 2½ 1½) 11.00 at 20
7 2½ 1½, 7 2 2, 7 2½ 1½, 7 2½ 2, 7 3 1½

722

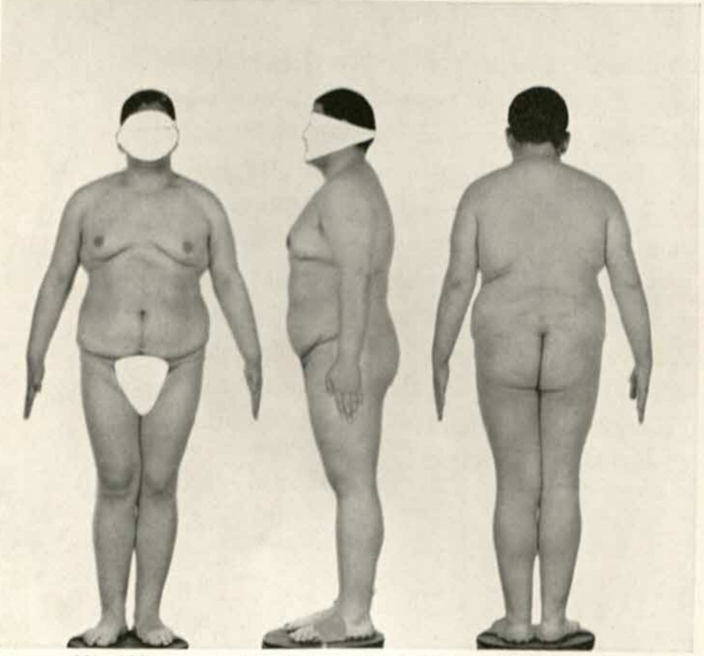


No. 1163 *7 2 2* (*1*) 7 2 2–7 2 2 11.45 at 19
7 2 2, 7 2 2, 6½ 2 2, 7 2 2, 7 2 2

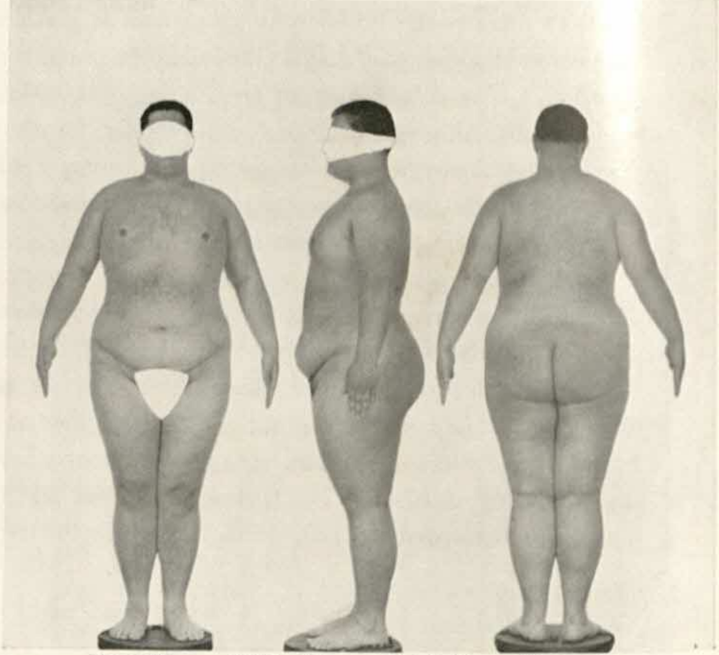


No. 1164 *7 2 2* (*2*) 7 2 2–7 3 2 (7 2½ 2) 10.[illegible] at 26
7 2½ 1½, 7 2½ 2, 7 2 2, 7 2½ 2, 7 2 2

731



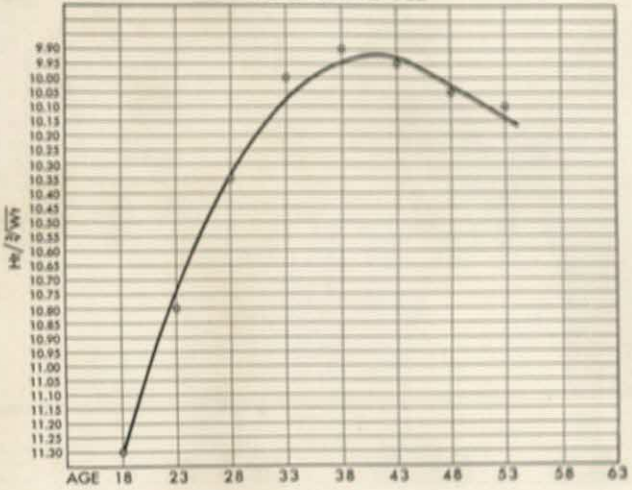
No. 1165 *7 3 1* (*1*) 7 3 1–7 3 1 11.05 at 19
7 3 1, 7 3 1, 7 3 1, 6½ 3 1, 7 2½ 1

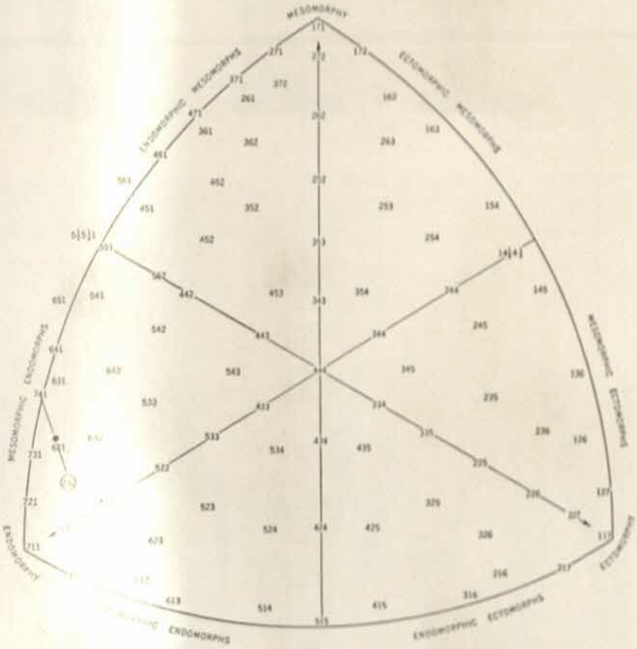


No. 1166 *7 3 1* (*2*) 7 3 1–7 3 1 10.20 at 26
6½ 2½ 1, 7 3 1, 7 3 1, 7 3 1, 7 3 1

Somatotype 7 3 2 *(Mesomorphic polar endomorphy, 12-level.) The great sperm whale. He reaches a length of 80 feet, a weight of possibly 120 tons, has formidable teeth, and is the only whale with a gullet that could accommodate a man. Moby Dick. Nos. 1171–1173.*

SOMATOTYPE 732



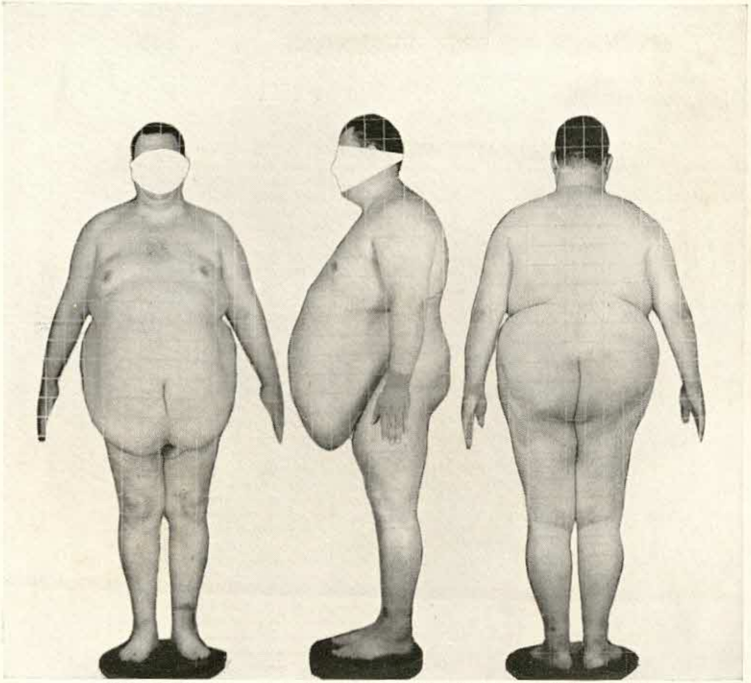


Weight for Age and Height

Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	292	334	383	423	433	427	414	405	..	..
74	281	321	367	406	416	409	398	389	..	..
73	270	308	353	390	399	393	384	374	..	..
72	259	296	339	374	383	377	367	358	..	..
71	248	283	326	359	367	361	351	344	..	..
70	238	271	312	344	352	346	337	329	..	..
69	228	260	298	329	337	331	323	315	..	..
68	218	249	285	315	323	317	309	302	..	..
67	208	238	272	302	309	304	295	289	..	..
66	199	228	259	288	295	289	283	276	..	..
65	190	218	248	275	281	276	270	264	..	..
64	182	208	236	263	269	264	257	252	..	..
63	173	198	225	251	257	253	246	240	..	..
62	165	188	215	239	245	240	234	229	..	..
61	157	179	206	228	234	230	223	218	..	..

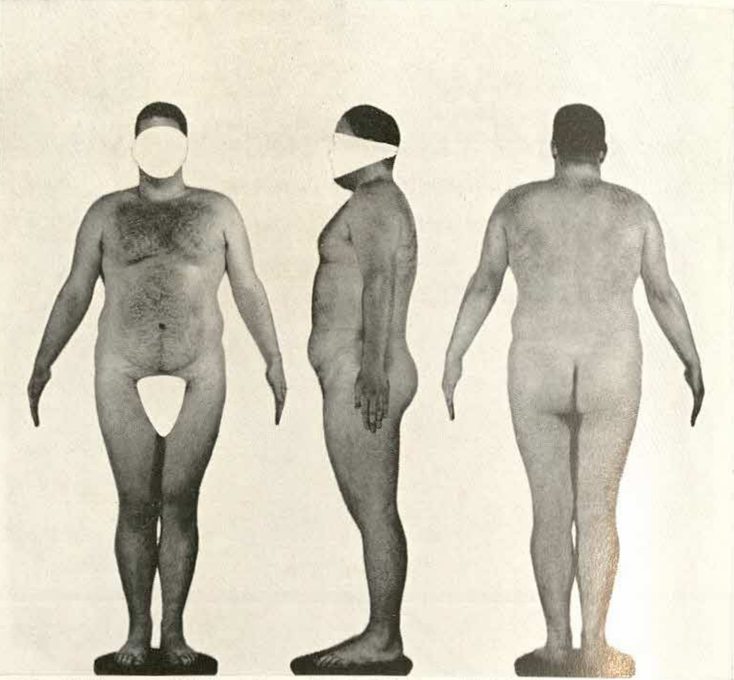
Rarity 4. Incidence 3 per thousand. This somatotype and the 7 4 1 are the commonest of the polar endomorphs. If you encounter a hugely endomorphic man who is also tall—perhaps over six feet—the chances are excellent that he is a 7 3 2. Possibly half or more of the male 400 pounders around the country are 7 3 2's. Occasionally one of these is a remarkably active, agile fellow. I know one in Chicago who as a bowler is not far short of national prominence. Bowling keeps him slim, he says. Another, who is a Boston businessman, is something of an amateur wrestler. He made the mistake one time of being prevailed upon to climb into the ring with the 4 7 1 professional wrestler whose photograph is No. 870 in this series.

But of course those two 400 pounders who are active and in their way somewhat athletic in early middle life are outstanding exceptions. Both are undoubtedly blessed with cardiovascular equipment well beyond the ordinary, and it may be that both are abusing these splendid engines by forcing them to power so huge a chassis at too high a speed. Even a perfect engine when forced to the limit in a chassis too heavy for it will fail after a time. Here, almost surely, a regime of dietary control ought to be followed although neither of the two men in question is actually overweight according to the averages that our weight charts show. One of them, in his mid-thirties, and at a stature of 74 inches, is almost at dead center "correct" weight with his 412 pounds. But he is trying to live what for him is the life of an athlete, and we recall that athletes in order to reach their best performance nearly always train down some 10 or 15 per cent. In this man's case a reduction of 10 per cent would surely be wise; 15 per cent might be a good idea; 20 per cent might be too radical. More than that might be an attempt to change a whale into something he was not intended to be. Whether longer life may accompany such a sacrifice in happiness remains to be discovered.

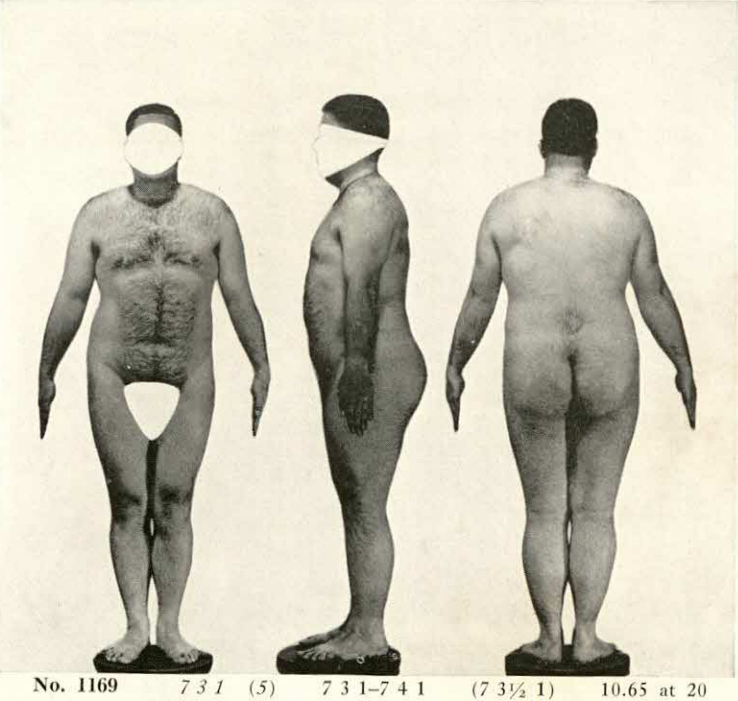


No. 1167 *7 3 1* (*3*) 7 3 1–7 3 1 9.70 at 39
7 3 1, 7 3 1, 7 3 1, 7 2½ 1, 7 2½ 1

731

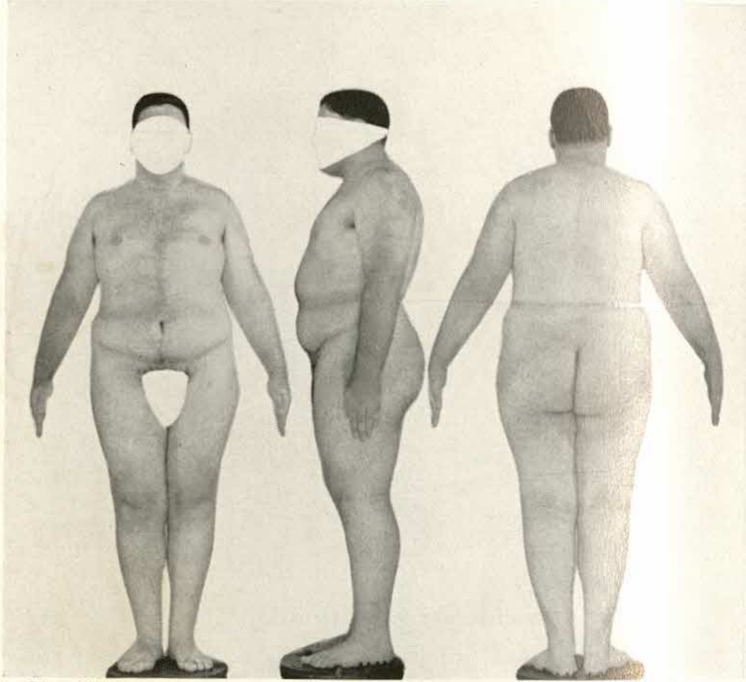


No. 1168 *7 3 1* (*4*) 7 3 1–7 3 2 (7 3 1½) 11.21 at 18
7 3 1½, 7 3 1½, 6½ 3 1½, 6½ 3 1½, 7 3 1½

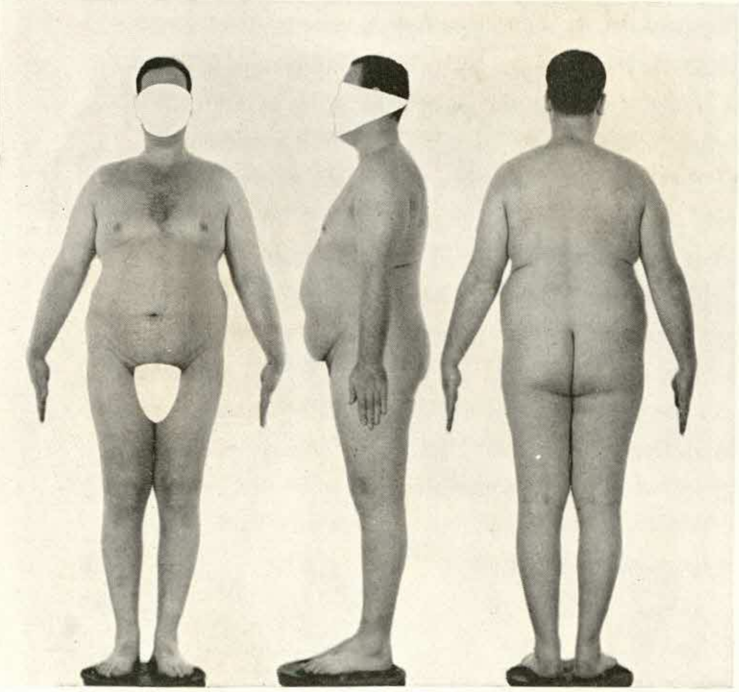


No. 1169 *7 3 1* (*5*) 7 3 1–7 4 1 (7 3½ 1) 10.65 at 20
7 3½ 1, 7 3½ 1, 7 3 1, 7 3½ 1, 7 4 1

731

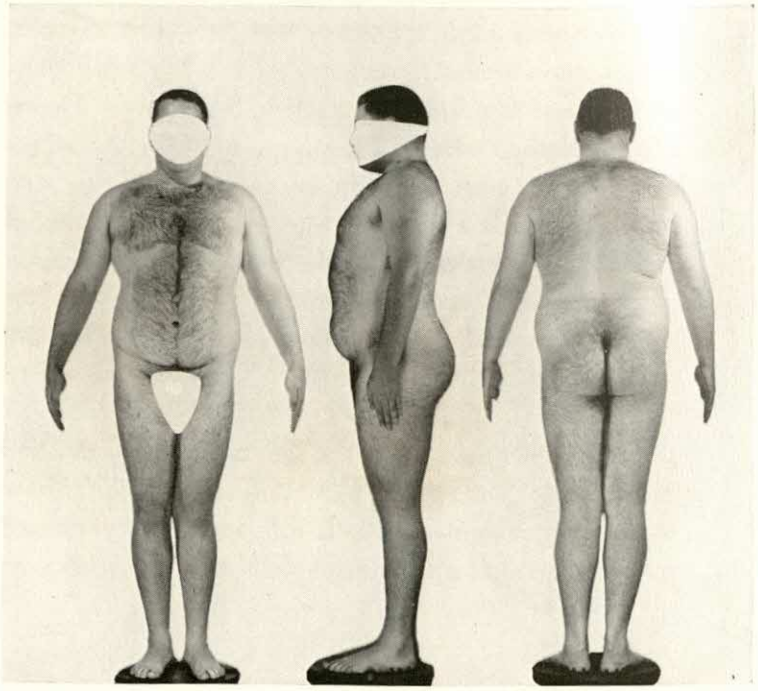


No. 1170 *7 3 1* (*6*) 7 3 1–7 4 1 (7 3½ 1) 10.48 at 21
7 3½ 1, 7 3 1, 7 4 1, 7 4 1, 7 3 1



No. 1171 *7 3 2* (*1*) 7 3 2–7 3 2 10.92 at 21
6½ 2½ 2½, 7 3 2, 7 3½ 1, 7 2½ 2, 7 2½ 2

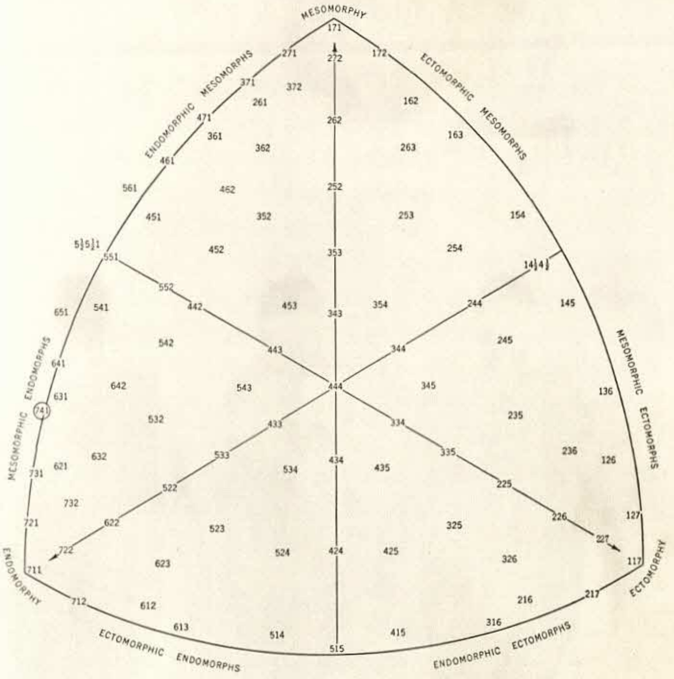
732

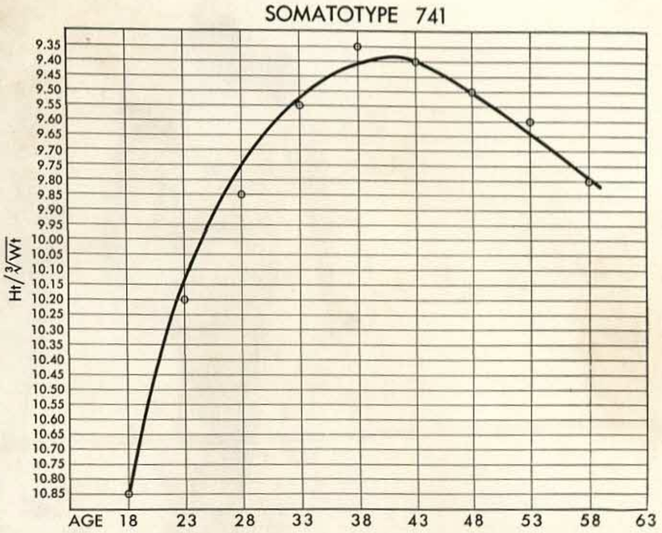


No. 1172 *7 3 2* (*2*) 7 3 2–7 4 1 (7 3½ 1½) 11.07 at 18
7 4 1, 7 3½ 1, 7 2½ 1½, 7 3½ 1½, 6½ 3½ 2

43. AN ANCIENT HIPPOPOTAMUS

Somatotype 7 4 1 *(Mesomorphic polar endomorphy at extreme ectopenia, 12-level.) The* baluchitherium, *a giant hippopotamuslike herbivore of Pleistocene times. Eight times heavier than an elephant, he loved the tropical marshes and slogging in them, gorged on leafy food. Nos. 1174–1175.*



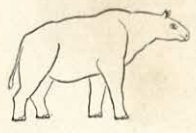


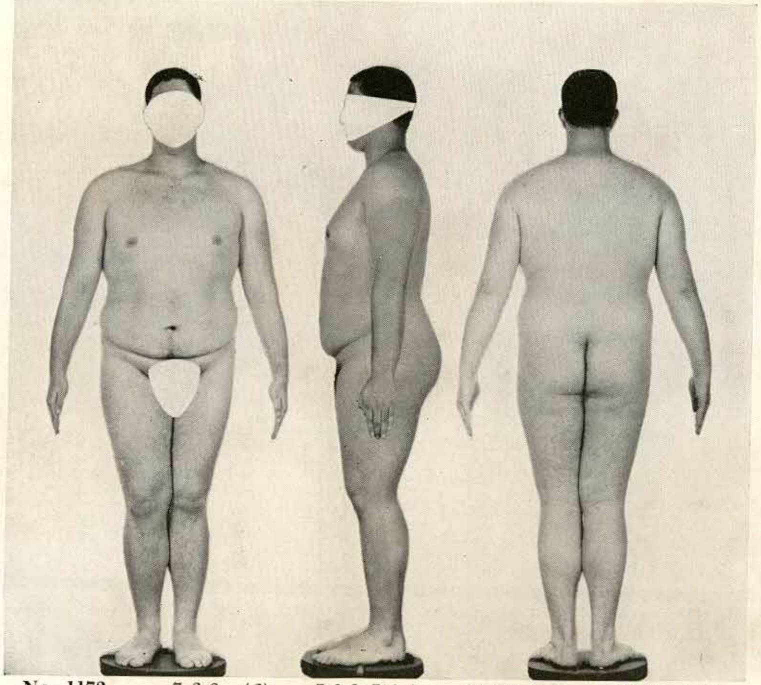
Weight for Age and Height

Height (inches)	Age 18	23	28	33	38	43	48	53	58	63
75	331	396	439	483	515	505	489	475	451	..
74	318	380	422	464	494	485	470	457	433	..
73	304	365	404	445	475	465	451	438	416	..
72	293	350	388	427	455	446	433	421	399	..
71	280	335	372	410	437	428	415	403	382	..
70	268	322	357	393	418	411	398	386	366	..
69	258	308	342	376	401	393	381	370	351	..
68	247	295	327	360	384	376	364	354	336	..
67	236	282	313	344	367	360	349	339	321	..
66	226	269	299	329	351	344	333	324	308	..
65	215	257	285	314	335	329	318	309	294	..
64	205	246	272	300	320	314	304	295	280	..
63	196	234	260	286	305	299	290	282	267	..
62	187	223	248	273	291	285	276	269	255	..
61	178	213	236	259	277	272	263	256	243	..

Rarity 4. Incidence 3 per thousand. No giant water hog of old ever loved the shallow shores more dearly than does the human 7 4 1 of today. Watch him at Coney Island, on a hot summer day when the Dodgers are playing away. See him paddle joyously about and float on the water—indeed he can all but *sit* on it—and some of the fecund earth promise of the lush Pleistocene of long ago will steal across your soul.

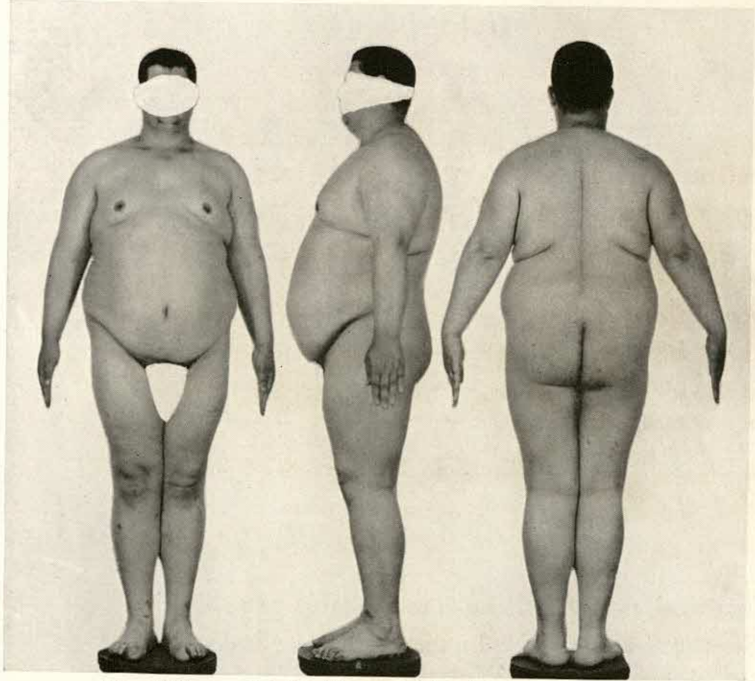
We end the review of the somatotypes with one of the most magnificent of them all. The 7 4 1 and his permutant the 4 7 1 are stupendous concentrations of human flesh. With the 6 5 1 and the 5 6 1 they embody what may be a universal animal craving for the ecstatic Dionysian binge, or thrust to the Northwest (see VDY, p. 59). No shadow of a counterpart for these four somatotypes is to be found in the Northeast, or even in the South. Psychiatrically the Northeast is unrelaxable paranoia, the South is jettisoning hebephrenia, and the Northwest is loss of inhibition, hence overexpression—manic euphoria as you ascend that coast and extraverted emotionalism as you descend it. Thus the 7 4 1, when found in the mental hospital, is likely to turn out to be the very life of the place. He is no hebephrene who has given up and lost contact, and no recluse with a complicated or unrealistic system of ideas. He remains very much in contact with everything and everybody within reach. But he is likely to have two overtly incompatible moods, one in which he owns the place and one in which he would like you to take it and somehow dispose of it.



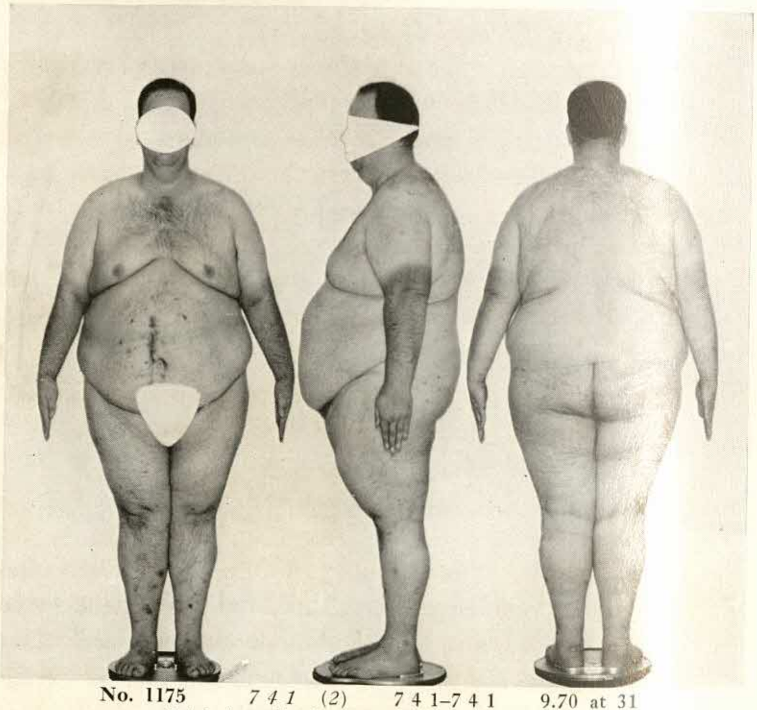


No. 1173 *7 3 2* (*3*) 7 3 2–7 4 1 (7 3½ 1½) 10.99 at 19
7 3 2, 7 3½ 1½, 7 3 1½, 7 3½ 1½, 7 3½ 1½

741



No. 1174 *7 4 1* (*1*) 7 4 1–7 4 1 10.18 at 23
7 3½ 1, 7 4 1, 7 4 1, 7 3½ 1, 7 4 1



No. 1175 *7 4 1* (*2*) 7 4 1–7 4 1 9.70 at 31
7 3 1½, 7 4 1, 7 4 1, 7 4 1, 7 4 1

Appendix 1: Glossary

Somatotype. A quantification of the three primary components determining the morphological structure of an individual. Expressed as a series of three numerals, the first referring to *endomorphy*, the second to *mesomorphy*, the third to *ectomorphy*.

More formally, the somatotype is defined as a trajectory or pathway along which the living organism is destined to travel under average conditions of nutrition and in the absence of grossly disturbing pathology. For further elaboration and discussion of the theory of the somatotype, see Volume 1, Chapters 3 through 6. For an expansion of the question of relationship of the somatotype both to the phenotype and to the genotype, see Volume 3, pp. 33-40.

Endomorphy, or the first component at the morphological level of the personality. Relative predominance in the bodily economy of structure associated with digestion and assimilation. Hence relatively great development of the digestive *viscera*. In embryonic life the endoderm, or inner embryonic layer, grows into what becomes the functional element in the digestive tube and its appendages. This whole system is called the vegetative system. Its organs make up the bulk of the viscera. Endomorphy means relative predominance of the vegetative system, with a consequent tendency to put on fat easily. The term is used for descriptive convenience without implying specific embryologic differentiation.

Mesomorphy, or the second component at the morphological level. Relative predominance of the mesodermally derived tissues, which are chiefly bone, muscle and connective tissue. These are the somatic structures, or the supportive and motor organ-systems. Mesomorphs thus tend toward massive strength and muscular development, and tend to continue through life in the general proportions of athletic shapeliness. Endomorphs get rolypoly. Mesomorphs only swell or expand more or less within their established athletic mold.

Ectomorphy, or the third component at the morphological level. Relative predominance of ectodermally derived tissues, which are chiefly the skin and its appendages, including the nervous system. In ectomorphy both kinds of bodily mass are sacrificed, or skimped, in favor of increased surface area with consequently greater sensory exposure to the outside world. Endomorphs and mesomorphs appear to be biological conservatives, the former investing faith in superior assimilative power or digestive ability, the latter in superior resistive substance and striking power. Ectomorphs seem to depart from both of these biological insurances and to embark on an exteroceptive adventure. By surrendering mass for surface they in a sense depart from the primacy of both the digestive organ-system and the motor organ-system in favor of the sensory organ-system.

Viscerotonia, or the first component at the behavioral level. Manifested by relaxation, extraversion of affect, love of food, sociality, etc. For a detailed definition see Volume 2, pp. 31-48.

Somatotonia, or the second component at the behavioral level. Manifested by bodily assertiveness and the desire for muscular activity. For viscerotonia the predominant motive seems to be assimilation and conservation of energy. For somatotonia, it is the vigorous expenditure of energy. For a detailed definition see Volume 2, pp. 49-68.

Cerebrotonia, or the third component at the behavioral level. Manifested by inhibition of both viscerotonic and somatotonic expression, and by hyperattentionality or overconsciousness. For a detailed definition see Volume 2, pp. 69-94.

Dysplasia. The extent to which an individual presents different somatotypes in different bodily regions. Quantification of dysplasia is possible, to a degree, by regarding the body as made up of a specific number of regions and by somatotyping each region separately. Dysplasia is then indicated by the amount of disagreement among the different regions. We usually write dysplasia as *d*. For a more extensive consideration of this concept see Volume 1, Chapter 4.

"Nilotic Dysplasia." Ectomorphic dsyplasia (marked elongation) of the arms and legs, especially in the distal segments. Characteristic of Negroes of the Nile Valley and their descendants.

"Ulcer Dysplasia." Mesomorphic dysplasia (increased mesomorphy) in the head and neck, chest, and usually in the arms, as compared with more ectomorphic and often more gynandroid lower regions of the body. Often encountered in men who develop peptic ulcer.

"Academic Dysplasia." The converse of ulcer dysplasia. Mesopenic dysplasia (lack or decrement of mesomorphy) in the head and neck, chest, and usually in the arms, with a more massive and powerful lower trunk and legs. Men of this dysplasia seem less subject to peptic ulcer, and we have sometimes fancied that men who are happy and successful in academic life often present such a dysplasia. It is a very common pattern in women.

Dysmorphic. Badly formed, or of low primary *t* component. Not to be confused with dysplastic, which means merely that the individual is of different somatotype in different regions.

Gynandromorphy, or *g*. Bisexuality. The degree or prominence of feminine characteristics in a male physique, or vice versa (*Gynen*, woman; *Andros*, man). For an elaboration of this concept see Volume 1, pp. 72-75.

The t Component, usually written as *t*. The component of textural quality, or (rather freely) of physical harmony, symmetry and beauty. For most minds, *t* is probably the same concept as beauty. Psychologically, it is the quality of aesthetic pleasingness. Obviously *t* is not a measure of "purity of ancestry," as certain racists or antiracists have quibbled, but of the aesthetic success of that particular biological experiment which the individual himself is. For elaboration of the concept see Volume 1, pp. 75-79, and Volume 3, pp. 20-23.

Aplasia. Literally, incomplete or defective development. Occasionally physiques are encountered that are suggestive of leaves which, touched by frost or by some other agent of pathology, never unfolded properly. We sometimes refer to these human victims of arrested development as *aplastic*.

Midrange somatotypes, or midrangers. A midranger is any individual whose somatotype includes only the midrange numerals 3 and 4.

Appendix 2: Tables for the Distributions of the Somatotypes on the Criterion Height over Cube Root of Weight, at Different Age Levels

Table 7. Age 18

HEIGHT OVER CUBE ROOT OF WEIGHT

Ratio Index	SOMATOTYPES						
9.35							
9.40							
9.45							
9.50							
9.55							
9.60							
9.65							
9.70							
9.75							
9.80							
9.85							
9.90							
9.95							
10.00							
10.05							
10.10							
10.15							
10.20							
10.25							
10.30							
10.35							
10.40							
10.45							
10.50							
10.55							
10.60							
10.65							
10.70							
10.75							
10.80							
10.85	741						
10.90							
10.95							
11.00							
11.05							
11.10	731						
11.15							
11.20							
11.25							
11.30	721	732					
11.35							
11.40							
11.45	651 711	722					
11.50							
11.55							
11.60							
11.65		712					
11.70	561 641						
11.75							
11.80	471						
11.85							
11.90							
11.95		642					
12.00	631						
12.05	551						
12.10	371 461						
12.15							
12.20	621	632					
12.25	541	552					
12.30	271	372					
12.35		462 622					
12.40	361						
12.45		612					
12.50	171	272 542	623				
12.55	261 451						
12.60		362					
12.65		172	613				
12.70		452 532	543				
12.75							
12.80		262					
12.85		352 522	533				
12.90		162 442	453				
12.95			263				
13.00		252	353 523	534			
13.05			443				
13.10			163				
13.15			433	354 524			
13.20			253 343	444			
13.25							
13.30				514			
13.35				254 434			
13.40				344			
13.45				424			
13.50				154	435 515		
13.55				244 334	345		
13.60					425		
13.65							
13.70					245 335		
13.75					325 415		
13.80					235		
13.85					145		
13.90						326	
13.95					225	236	
14.00							
14.05						316	
14.10						226	
14.15						136	
14.20							
14.25						216	
14.30							227
14.35						126	
14.40							
14.45							217
14.50							
14.55							
14.60							127
14.65							
14.70							
14.75							
14.80							117

Table 8. Age 23

HEIGHT OVER CUBE ROOT OF WEIGHT

Ratio Index	SOMATOTYPES						
9.35							
9.40							
9.45							
9.50							
9.55							
9.60							
9.65							
9.70							
9.75							
9.80							
9.85							
9.90							
9.95							
10.00							
10.05							
10.10							
10.15							
10.20	741						
10.25							
10.30							
10.35							
10.40							
10.45							
10.50							
10.55	731						
10.60							
10.65							
10.70							
10.75							
10.80	721	732					
10.85							
10.90							
10.95							
11.00	711	722					
11.05							
11.10							
11.15	651						
11.20							
11.25		712					
11.30							
11.35							
11.40	641						
11.45	471 561						
11.50							
11.55							
11.60							
11.65		642					
11.70	551 631						
11.75							
11.80	371 461						
11.85							
11.90		632					
11.95	621	552					
12.00	541						
12.05	271	372					
12.10		462					
12.15	361	622					
12.20							
12.25	451	542 612					
12.30		272	623				
12.35		362					
12.40	171 261	532	613				
12.45		452	543				
12.50							
12.55							
12.60		172 262	533				
12.65		352 522	453				
12.70		442					
12.75							
12.80			263 523	534			
12.85		162 252	353 443				
12.90							
12.95				524			
13.00			433	354 444			
13.05			163 343				
13.10			253	514			
13.15				434			
13.20				344			
13.25				254			
13.30				424	515		
13.35					435		
13.40				244 334	345		
13.45							
13.50				154	425		
13.55					335		
13.60					245 415		
13.65					325		
13.70							
13.75					235		
13.80						326	
13.85					145 225		
13.90						236	
13.95						316	
14.00						226	
14.05							
14.10						136	
14.15						216	
14.20							227
14.25							
14.30						126	
14.35							
14.40							217
14.45							
14.50							
14.55							127
14.60							
14.65							
14.70							
14.75							
14.80							117

Table 9. Age 28

HEIGHT OVER CUBE ROOT OF WEIGHT

Ratio Index	SOMATOTYPES						
9.35							
9.40							
9.45							
9.50							
9.55							
9.60							
9.65							
9.70							
9.75							
9.80							
9.85	741						
9.90							
9.95							
10.00							
10.05							
10.10							
10.15	731						
10.20							
10.25							
10.30							
10.35		732					
10.40	721						
10.45							
10.50							
10.55		722					
10.60	711						
10.65							
10.70							
10.75							
10.80							
10.85							
10.90	651						
10.95		712					
11.00							
11.05							
11.10	561						
11.15							
11.20	471 641						
11.25							
11.30							
11.35							
11.40							
11.45		642					
11.50	631						
11.55	461 551						
11.60	371						
11.65							
11.70		632					
11.75	541	552					
11.80	621						
11.85		372					
11.90	271	462					
11.95	361	622					
12.00		542					
12.05	451						
12.10		612	623				
12.15		272					
12.20		362 452					
12.25	261	532	543 613				
12.30	171						
12.35							
12.40		442					
12.45		262 522	453 533				
12.50		352					
12.55		172					
12.60				534			
12.65			443 523				
12.70			263 353				
12.75		252					
12.80		162		524			
12.85			433	354 444			
12.90			343				
12.95			253	514			
13.00				434			
13.05			163				
13.10				344	515		
13.15				254 424			
13.20					435		
13.25				334			
13.30				244	345		
13.35					425		
13.40							
13.45				154	335		
13.50					245 415		
13.55					325		
13.60					235		
13.65							
13.70						326	
13.75							
13.80					145 225		
13.85						236 316	
13.90						226	
13.95							
14.00							
14.05						136	
14.10						216	227
14.15							
14.20						126	
14.25							
14.30							
14.35							217
14.40							
14.45							
14.50							127
14.55							
14.60							
14.65							
14.70							
14.75							117
14.80							

Table 10. Age 33

HEIGHT OVER CUBE ROOT OF WEIGHT

Ratio Index	SOMATOTYPES						
9.35							
9.40							
9.45							
9.50							
9.55	741						
9.60							
9.65							
9.70							
9.75							
9.80							
9.85	731						
9.90							
9.95							
10.00		732					
10.05							
10.10							
10.15	721						
10.20		722					
10.25							
10.30							
10.35	711						
10.40							
10.45							
10.50							
10.55							
10.60	651						
10.65							
10.70		712					
10.75							
10.80	561						
10.85							
10.90							
10.95	471 641						
11.00							
11.05							
11.10							
11.15							
11.20		642					
11.25							
11.30	551						
11.35	461 631						
11.40	371						
11.45							
11.50		552 632					
11.55	541						
11.60	621	372					
11.65		462					
11.70							
11.75	271	622					
11.80	361 451	542					
11.85			623				
11.90		612					
11.95							
12.00		272 532	543				
12.05		362 452	613				
12.10							
12.15	261						
12.20							
12.25	171	442	453 533				
12.30		522					
12.35		262 352					
12.40				534			
12.45			523				
12.50			433				
12.55		172	353				
12.60			263				
12.65		252					
12.70			433	444 524			
12.75		162		354			
12.80			343				
12.85				514			
12.90			253	434			
12.95					515		
13.00			163	344			
13.05				254 424			
13.10					435		
13.15				334			
13.20					345		
13.25				244			
13.30					425		
13.35					335		
13.40					415		
13.45				154	245		
13.50					325		
13.55					235		
13.60						326	
13.65							
13.70					225	316	
13.75							
13.80					145	236	
13.85						226	
13.90							
13.95							
14.00							
14.05						136 216	227
14.10							
14.15							
14.20						126	
14.25							
14.30							217
14.35							
14.40							
14.45							
14.50							127
14.55							
14.60							
14.65							
14.70							117
14.75							
14.80							

Table 11. Age 38

HEIGHT OVER CUBE ROOT OF WEIGHT

Ratio Index	SOMATOTYPES						
9.35	741						
9.40							
9.45							
9.50							
9.55							
9.60							
9.65							
9.70	731						
9.75							
9.80							
9.85							
9.90		732					
9.95	721						
10.00							
10.05							
10.10							
10.15							
10.20							
10.25		722					
10.30							
10.35							
10.40	651						
10.45							
10.50							
10.55	561						
10.60							
10.65							
10.70							
10.75	471 641						
10.80		712					
10.85							
10.90							
10.95							
11.00		642					
11.05							
11.10	551						
11.15	461						
11.20	631						
11.25	371						
11.30							
11.35	541	632					
11.40	621	552					
11.45		372					
11.50		462					
11.55							
11.60		542 622					
11.65	271 451						
11.70	361						
11.75		612	623				
11.80			543				
11.85		272 532					
11.90		362 452	613				
11.95							
12.00							
12.05	261		533				
12.10		442	453				
12.15							
12.20	171	352 522					
12.25		262					
12.30				534			
12.35			443 523				
12.40			353				
12.45							
12.50		172					
12.55			263 433	444			
12.60		252		354 524			
12.65							
12.70			343				
12.75		162		514			
12.80			253	434			
12.85							
12.90				344			
12.95							
13.00			163	254 424	515		
13.05					435		
13.10				334			
13.15				244	345		
13.20					425		
13.25							
13.30					335 415		
13.35							
13.40				154	245		
13.45					325		
13.50							
13.55						326	
13.60					235		
13.65							
13.70					225	316	
13.75						236	
13.80					145		
13.85							
13.90						226	
13.95							
14.00							
14.05						136 216	
14.10							227
14.15							
14.20							
14.25						126	
14.30							217
14.35							
14.40							
14.45							
14.50							127
14.55							
14.60							
14.65							
14.70							
14.75							117
14.80							

Table 12. Age 43

HEIGHT OVER CUBE ROOT OF WEIGHT

Ratio Index	SOMATOTYPES						
9.35							
9.40	741						
9.45							
9.50							
9.55							
9.60							
9.65							
9.70							
9.75	731						
9.80							
9.85							
9.90							
9.95		732					
10.00	721						
10.05							
10.10							
10.15							
10.20	651						
10.25							
10.30							
10.35		722					
10.40							
10.45							
10.50	561						
10.55							
10.60	471 641						
10.65							
10.70							
10.75							
10.80							
10.85	551	642					
10.90							
10.95							
11.00	461						
11.05							
11.10	631						
11.15	371						
11.20	541	632					
11.25							
11.30	621	462 552					
11.35		372					
11.40							
11.45		542					
11.50	451	622					
11.55	271 361						
11.60							
11.65		612	623				
11.70			543				
11.75		452 532					
11.80		272 362					
11.85							
11.90							
11.95	261		533 613				
12.00			453				
12.05		442					
12.10		352 522					
12.15	171						
12.20		262		534			
12.25			443				
12.30			523				
12.35			353				
12.40							
12.45		172	433	444			
12.50			263	354			
12.55		252		524			
12.60			343				
12.65							
12.70		162		434			
12.75			253				
12.80				344 514			
12.85							
12.90				424			
12.95			163	254	435		
13.00							
13.05				334			
13.10					345 425		
13.15				244			
13.20							
13.25					335		
13.30							
13.35					245 415		
13.40				154	325		
13.45							
13.50							
13.55					235	326	
13.60							
13.65							
13.70					225	236 316	
13.75					145		
13.80							
13.85						226	
13.90							
13.95							
14.00						136 216	
14.05							227
14.10							
14.15							
14.20						126	
14.25							
14.30							217
14.35							
14.40							
14.45							
14.50							127
14.55							
14.60							
14.65							
14.70							
14.75							117
14.80							

Table 13. Age 48

HEIGHT OVER CUBE ROOT OF WEIGHT

Ratio Index	SOMATOTYPES						
9.35							
9.40							
9.45							
9.50	741						
9.55							
9.60							
9.65							
9.70							
9.75							
9.80							
9.85	731						
9.90							
9.95							
10.00							
10.05	721	732					
10.10							
10.15							
10.20							
10.25	651						
10.30							
10.35							
10.40		722					
10.45							
10.50							
10.55	561 641						
10.60							
10.65	471						
10.70							
10.75							
10.80		642					
10.85							
10.90	551						
10.95							
11.00	461 631						
11.05							
11.10	371						
11.15	541	632					
11.20		552					
11.25	621	462					
11.30		372					
11.35							
11.40	451	542					
11.45	361	622					
11.50							
11.55	271						
11.60							
11.65		532	543 623				
11.70		452 612					
11.75		272 362					
11.80							
11.85							
11.90			533				
11.95	261	442	453				
12.00							
12.05		352					
12.10		522					
12.15	171	262					
12.20			443	534			
12.25							
12.30			353 523				
12.35							
12.40		172	433	444			
12.45			263	354			
12.50		252					
12.55			343	524			
12.60							
12.65				434			
12.70		162	253				
12.75				344			
12.80							
12.85				424 514			
12.90				254	435		
12.95			163				
13.00				334			
13.05					345 425		
13.10				244			
13.15							
13.20					335		
13.25							
13.30					245		
13.35					325		
13.40				154	415		
13.45					235	326	
13.50							
13.55							
13.60					225	236	
13.65							
13.70					145	316	
13.75							
13.80						226	
13.85							
13.90							
13.95						136	
14.00							
14.05						216	227
14.10							
14.15						126	
14.20							
14.25							
14.30							217
14.35							
14.40							
14.45							127
14.50							
14.55							
14.60							
14.65							
14.70							117
14.75							
14.80							

Table 14. Age 53

HEIGHT OVER CUBE ROOT OF WEIGHT

Ratio Index	SOMATOTYPES						
9.35							
9.40							
9.45							
9.50							
9.55							
9.60	741						
9.65							
9.70							
9.75							
9.80							
9.85							
9.90							
9.95	731						
10.00							
10.05							
10.10		732					
10.15							
10.20							
10.25							
10.30	651						
10.35							
10.40							
10.45							
10.50							
10.55							
10.60	641						
10.65	561						
10.70	471						
10.75							
10.80							
10.85		642					
10.90							
10.95	551						
11.00	631						
11.05	461						
11.10	371						
11.15		632					
11.20	541	552					
11.25	621	462					
11.30		372					
11.35							
11.40	451	542					
11.45	361						
11.50		622					
11.55	271						
11.60							
11.65		452					
11.70		362 532	543 623				
11.75		272					
11.80							
11.85							
11.90	261		453				
11.95		442	533				
12.00							
12.05		352					
12.10		262					
12.15	171	522					
12.20			443	534			
12.25			353				
12.30							
12.35			523				
12.40		172	433	444			
12.45		252	263	354			
12.50			343				
12.55				524			
12.60				434			
12.65		162	253				
12.70							
12.75				344			
12.80							
12.85				424	435		
12.90				254			
12.95			163	334			
13.00					345		
13.05				244			
13.10					425		
13.15					335		
13.20							
13.25							
13.30					245		
13.35				154	325		
13.40							
13.45					235	326	
13.50							
13.55					225		
13.60						236	
13.65					145		
13.70							
13.75							
13.80						226 316	
13.85							
13.90						136	
13.95							
14.00							
14.05							227
14.10							
14.15						126	
14.20							
14.25							
14.30							
14.35							217
14.40							
14.45							127
14.50							
14.55							
14.60							
14.65							
14.70							
14.75							117
14.80							

Table 15. Age 58

HEIGHT OVER CUBE ROOT OF WEIGHT

Ratio Index	SOMATOTYPES						
9.35							
9.40							
9.45							
9.50							
9.55							
9.60							
9.65							
9.70							
9.75							
9.80	741						
9.85							
9.90							
9.95							
10.00							
10.05	731						
10.10							
10.15							
10.20							
10.25							
10.30							
10.35	651						
10.40							
10.45							
10.50							
10.55							
10.60							
10.65	641						
10.70							
10.75	471						
10.80							
10.85							
10.90		642					
10.95	551						
11.00							
11.05	631						
11.10	461						
11.15	371						
11.20	541	632					
11.25		462					
11.30	621	552					
11.35		372					
11.40	451	542					
11.45							
11.50	361	622					
11.55							
11.60	271						
11.65		452					
11.70		362 532	543				
11.75							
11.80		272					
11.85							
11.90	261		453				
11.95			533				
12.00		442					
12.05		352					
12.10		262					
12.15			443				
12.20	171	522		534			
12.25			353				
12.30							
12.35							
12.40		172	433	444			
12.45		252	263	354			
12.50			343				
12.55							
12.60				434			
12.65		162	253	524			
12.70							
12.75				344			
12.80							
12.85				254	435		
12.90				424			
12.95			163	334			
13.00					345		
13.05				244			
13.10					425		
13.15							
13.20					335		
13.25					245		
13.30							
13.35				154	325		
13.40							
13.45					235		
13.50							
13.55						326	
13.60							
13.65					225	236	
13.70					145		
13.75							
13.80							
13.85						226	
13.90							
13.95						136	
14.00							
14.05							
14.10							
14.15							227
14.20						126	
14.25							
14.30							
14.35							
14.40							
14.45							
14.50							127
14.55							
14.60							
14.65							
14.70							
14.75							
14.80							

Table 16. Age 63

HEIGHT OVER CUBE ROOT OF WEIGHT

Ratio Index	SOMATOTYPES						
9.35							
9.40							
9.45							
9.50							
9.55							
9.60							
9.65							
9.70							
9.75							
9.80							
9.85							
9.90							
9.95							
10.00							
10.05							
10.10							
10.15							
10.20							
10.25							
10.30							
10.35							
10.40							
10.45							
10.50							
10.55							
10.60							
10.65							
10.70							
10.75							
10.80							
10.85							
10.90							
10.95		642					
11.00							
11.05	551						
11.10							
11.15							
11.20							
11.25	541	632					
11.30		462					
11.35		552					
11.40	451	372					
11.45		542					
11.50	361						
11.55							
11.60	271						
11.65		452					
11.70							
11.75		362	543				
11.80		532 272					
11.85							
11.90			453				
11.95	261						
12.00		442	533				
12.05		352					
12.10							
12.15		262	443				
12.20	171						
12.25			353	534			
12.30							
12.35							
12.40		172	433	354 444			
12.45		252	263				
12.50			343				
12.55							
12.60				434			
12.65			253				
12.70		162		344			
12.75							
12.80							
12.85				254			
12.90					435		
12.95			163	334 424	345		
13.00							
13.05				244			
13.10							
13.15					425		
13.20					335		
13.25					245		
13.30							
13.35				154			
13.40					325		
13.45					235		
13.50							
13.55						326	
13.60							
13.65						236	
13.70					145		
13.75					225		
13.80							
13.85							
13.90						226	
13.95						136	
14.00							
14.05							
14.10							
14.15							227
14.20						126	
14.25							
14.30							
14.35							
14.40							
14.45							
14.50							127
14.55							
14.60							
14.65							
14.70							
14.75							
14.80							

Appendix 3: Equipment and Procedures in Somatotyping

1. Equipment for Somatotype Photography

Camera and Lens. Somatotype photography has been standardized to use 5 × 7 film and contact prints. Any good portrait camera can be adapted for this purpose. A special three-panel sliding back is used to expose one third of the film at a time, so that the part of the film being exposed always lies directly in line with the lens. The vertical dimension of the subject being photographed corresponds with the short diameter of the film. The Corona Camera Company, Rochester, New York, now makes a 5 × 7 camera equipped with this three-panel back.

All of our own 5 × 7 photographs have been taken with lenses of 9½-inch focal length. With such a lens, focused at approximately the center of the subject's body, it is possible to obtain full-length pictures with all visible parts of the body free from detectable photographic distortion. In a series of experiments with lenses of different focal length it was found that traces of distortion were regularly demonstrable in somatotype photographs when the lens was of 8-inch focal length or less. When a lens with a focal length of 6.37 inches was used there was gross peripheral distortion. However, we were not able to demonstrate distortion, either by inspectional or micrometric methods, in somatotype photographs taken with lenses of 8½-inch focal length. Theoretically, therefore, a lens of 8½-inch focal length may be adequate for somatotype photography. But because of the presence of visible distortion in its near relative (of 8-inch focal length) it seemed wise to adopt the lens of 9½-inch focal length as standard for somatotype photography. This is a commonly available lens, and often can be picked up on the second-hand market.

The lens can be housed in any standard between-the lens shutter, synchronized for speedlight with a solenoid contact.

In addition to the 5 × 7 black and white photographs, we also take simultaneously (with speedlight) 35 mm. Kodachrome transparencies. These transparencies, projected on a screen, recapture not only some of the contrasts in skin color and expressional detail originally presented by the subjects photographed, but also they recover a degree of three-dimensionality in the presentation. For these reasons the Kodachrome photographs are valuable both for somatotyping and for teaching purposes although they possess the serious disadvantage that they cannot be laid out in groups and studied simultaneously for comparative purposes. They are good adjuncts to the standard somatotype photographs.

Several kinds of commercially available 35 mm. reflex cameras can be adapted for three exposures per frame. A lens of 50 mm. focal length is required, since for this lens the working distance from camera lens to subject is approximately the same as that for the lens of 9½-inch focal length with 5 × 7 film (177 inches). A lens with speed of *f* 3.5 is adequate when used with speedlight in the manner recommended in a following paragraph. We have satisfactorily used a 35 mm. *f*. 3.5 Praktica in this manner, and have also used a Bolsey camera with an *f*. 2.9 Alpar lens, although for this job neither so fast nor so expensive a lens is necessary. A third camera, the Exakta with *f*. 2.9 Meritar lens, with which we have experimented, appears to be perfectly satisfactory.

Thirty-five millimeter Kodachrome transparencies also can be taken with the Stereo Realist camera. These transparencies require either a special projector or a viewer (both now widely available) but they yield a dramatic three-dimensionality which renders them especially valuable whenever any effort is made to study psychiatric or other personality characteristics of the subjects photographed. The Stereo Realist camera has the disadvantage of being equipped with a lens of short focal length (35 mm.). Therefore this camera has not ordinarily been used in somatotype photography. However, through the courtesy of the Wenner-Gren Foundation a Stereo Realist camera was provided with auxiliary lenses which increased the focal length to 50 mm. and also was rebuilt to take two exposures on a frame (it is impractical to re-gear this camera to take three exposures on a frame). The resulting pictures have proved quite satisfactory, although it should be noted that with the lenses of longer focal length some of the stereopsis is sacrificed. The Constitution Laboratory has photographed about 4000 subjects with the Stereo Realist equipment. As in the case of the other 35 mm. cameras it is an easy matter to attach the Stereo Realist to the same plate that supports the 5 × 7 camera, so that the two pictures (35 mm. and 5 × 7) can be taken simultaneously with a single flash of the speedlight.

Lighting. In all three of our main somatotyping laboratories (at the Columbia, Western Reserve and University of Oregon Medical Centers) speedlight or electronic flash equipment has replaced the older incandescent photoflood lighting. This has the advantage of coolness and is usually pleasing to the subject photographed. Also it arrests motion, records normal expression (instead of a squint), and can be plugged into any 100-125 volt, 60-cycle current. Speedlight is a new and still rapidly developing device. Within the past three years (prior to 1952) we have used speedlight units offered by four different manufacturers, with light output ranging approximately from 180 watt-seconds to 270 watt-seconds. Good results have been obtained with all of these units by using two lamps, preferably sealed beam, placed equidistantly above and below the lens, and not more than 15 inches from the horizontal plane of the lens.

Our newest unit (American Speedlight, Model 270-C) with a light output of approximately 270 watt-seconds, produces excellent results for somatotype photography with three standard brands of cut film as follows: With Ansco Isopan at *f* 22; with Panatomic X (Eastman), at *f* 11; with Dupont Defender Fine Grain Pan, at *f* 11. A yellow filter (Wratten K2) improves the recording of surface detail. When such a filter is used, the shutter is opened one stop. It should be added that since the intensity of speedlight flash is not yet standardized as a direct function of the watt-second output, the optimal *f* stop for a particular speedlight unit with a particular film may be best established empirically.

Since speedlight units are available which operate from their own self-contained storage batteries, it is probable that this equipment is adaptable to nearly all circumstances where somatotype photographs are likely to be taken. However, all of our earlier pictures were taken with photofloods or with a combination of these with spotlights. The principal disadvantages of the latter are that it is almost impossible to standardize the procedure perfectly, and very difficult to eliminate the shadows. Other serious disadvantages are heat and glare, overloading of circuits, and (because of the shadow problem) the need for a greater amount of space laterally for taking the photographs. Our best results with photofloods were obtained by using two vertical troughs of lights, placed six or seven feet out on either side of the subject. By using this kind of cross lighting, slightly unequalized on the two sides, it is possible to keep shadows off the background screen entirely and to obtain pictures showing excellent surface detail. But when photofloods are used it is necessary to check the light intensity frequently, and to readjust the exposure accordingly, for with use photofloods deliver progressively less light.

It is possible to get excellent pictures by using two spotlights, placed above and below the lens just as we place the two speedlight lamps. However, subjects sometimes object strenuously to looking into these powerful lights, and there is a sense of strain and trauma-to-the-subject which is entirely avoided by the use of the speedlight equipment.

Pedestal and Screen. The subject stands on a pedestal or turntable which by means of a foot-operated release revolves between stops placed at intervals of 90 degrees. In this way exact frontal, lateral and dorsal pictures can be taken without any movement on the subject's part. The pedestal is installed on a low platform. On either side of the pedestal there is a railing by means of which the subject steadies himself while placing his feet on the foot-marks. Continuous with the platform is a vertical masonite backboard, 48 by 84 inches, to which is glued a white beaded moving picture screen of the same dimensions. Use of the beaded screen greatly improves the sharpness of outline in the photographs and minimizes shadows. The white background is immeasurably superior to a dark background for emphasizing the contrast with the whole tonal range of human skin and in particular, the contrast with hair. If the equipment is to be used with a portable set, the beaded screen can be attached to a roller, like a window shade. Both a linear and a color scale should be included.

Additional Items of Equipment.

For the camera: Two dozen or more film holders and at least one film pack adapter; a vertical stationary post (two concentric pipes with set screws and a flange for attachment to the floor), adjustable for height and equipped with a plate for attaching the camera, and also a tripod for use with the portable set.

For the lights: A vertical stand; when the portable set is used the lamps are attached directly to the camera.

A balance type weighing scale.

A wall stadiometer. (No. 591 A, Narragansett Gymnasium Equipment Co., Centralia, Missouri.)

Two data boards. We use a grooved felt restaurant board, with black metal edges, 10 by 5 by ¾ inches. (Obtainable from any restaurant supply house.)

Set of numerals and letters. We use "Art Cast" aluminum numerals, ¾ inch. If any considerable number of subjects are to be photographed within a specified time, it will be found that at least eight each of the numerals will be needed. (Also obtainable from restaurant supply house.)

Log Book. We use a loose-leaf folder holding 9 by 12 inch sheets.

A tool box, equipped with small tools, steel tape, focusing lens, a level, dermographic pencil, plumb bob, spare cable release, Yankee drill, etc.

One-way interphone by which camerman communicates with the poser.

2. Placement and Positioning

Arrangement of the equipment depends largely on the amount and shape of available space. Figures 5A and 5B show the present arrangements of our units at the Oregon and Columbia Medical Centers, respectively. It will be noted that the camera is placed in a closed-in booth which is equipped with a one-way mirror. The subject is thus given a sense of privacy and at the time of being photographed is in contact only with the person who does the posing—always one of his or her own sex.

For somatotype photography, with the (Goerz-Dagor) lenses of 9½-inch focal length with which our photographic sets are equipped, the distance from the plane of the front of the lens to the center of the pedestal has been standardized at 14 feet and 9 inches. This is the distance at which a person 78 inches in stature is just included within the short dimension of the 5 × 7 film. The pedestal is installed on a platform which rests on an iron slide, or track, so that if necessary it can be moved back to accommodate the very rare individual who is more than 78 inches tall.

Placement of the dressing cubicles, wall stadiometer and weighing scales will of course be determined by the nature of the available space.

3. Processing and Printing

In somatotype photography the objective is to produce pictures of wide tonal range (in order to reflect the subtle and elusive detail of the body surface), and at the same time to retain relatively high contrast. Through the medium of a set of lenses, and the process of developing and printing, one attempts to recapture, as nearly as possible, the original three-dimensionality of the living figure. When speedlight is used, it has been found that the relatively slow films, processed in slow developers, yield the best approximation to such an objective. Table 17 presents four schedules for processing and printing, by means of which we have been able to achieve uniformly excellent results with four different films which are at present widely available. No implication is intended that these particular films are the only ones adaptable to such a job. It happens merely that these films are readily available at the time of writing.

4. The Somatotype Performance Test

The procedure in taking somatotype photographs can serve as a standardized performance test. The photograph is a partial record of an individual's response to the test. The procedure is then carried out with a team of four operators who have been trained to work together with precision.

Operator 1 is captain and cameraman. He is the one directly responsible for the postural standardization of the photograph and for the exact alignment of all parts of the subject's body. When he releases the shutter it is as if he were to take—and to certify—a potentially almost infinite series of bodily measurements. He certifies that the picture as taken is a fair record of that subject's best effort to assume and to maintain (for a period of a few seconds) the exact postural performance described in Table 18. Meanwhile operator 2 instructs every subject in exactly the same manner, and offers the same help to each subject.

Operator 2 poses the subject. This is the hardest part of the procedure and except in cases where only a very few subjects are to be photographed, it should be all he does. He knows his *Instructions for Posing* (Table 18) as any specialist knows his specialty, and he carries them out with precision. The cameraman helps him with timely instructions over the one-way telephone, but it is No. 2 who conducts the subject

Table 17

A Guide for the Processing and Printing of Somatotype Photographs

FILM	LIGHT SOURCE	*f* STOP	FILM DEVELOPER	PAPER & DEVELOPER
Ansco Isopan 5 x 7 Cut Film	American Speedlight Model 270-C with 2 lamps	*f* 22 or *f* 16 (with Wratten K2 filter)	Dupont 16-D	Eastman Illustrator's Azo #2, or if for any reason greater contrast is needed, #3
Ansco Supreme 5 x 7 (available in both cut film and film pack)	Same	Same	Same	Same
Dupont Defender Fine Grain Pan 5 x 7 Cut Film	Same	*f* 11	Dupont 6-D	Same
Eastman Panatomic X 5 x 7 Cut Film	Same	Same	Eastman D-76	Same
			Note: When possible, develop film in a tank. When speedlight is used, develop 50% longer than directions call for	Note: With this paper, Eastman's Dektol developer yields clearer tone quality than does Selectol. The latter gives somewhat warmer skin tones.

through the critical business of lining up body segments, relaxing the chest, placing and hyperextending the arms and so on. This is exacting work, requiring a relaxed and socially competent person who can put the subject at ease and can elicit full coöperation. When it is found that a subject is unable or unwilling to hold a particular postural set for the necessary few seconds until the picture can be taken, operator 2 corrects the error twice, and on the third occasion the picture is taken "regardless." This rule becomes especially important in interpreting the photographs of psychotic patients, some of whom are impossible to pose correctly and many of whom (when hebephrenic) cannot extend the arms.

Operator 3 takes height and weight, and any other measurements required for a particular project. He is also receptionist and is charged with the responsibility of keeping the subjects in the proper line or order, of caring for their personal property, and of ensuring the general smoothness of their progression through the test. Taking weight is nearly automatic but correct measurement of height requires an exact attention to detail. The subject stands against the wall scale, or stadiometer, with his toes together and with his heels, gastrocnemii, buttocks and shoulders touching the wall. His head is moved in the sagittal plane until that position is found which gives the subject his greatest height. The operator then instructs the subject sharply to take a deep breath and to stretch up all he can (keeping his feet down). This final step brings out the subject's maximal height and when stature is so taken it is found to be the same in the evening as in the morning (see *Varieties of Delinquent Youth,* p. 32).

Operator 4 is the clerk. He sits at a table, where he can avoid confusion, and is charged with three duties: (1) He keeps the books, recording a double check on height, weight and other data. (2) He prepares the data board, which is photographed into each picture, and delivers this to operator 2. (3) He interviews each subject, recording on his interview sheet such informational data as are being collected in the project under consideration.

Such appears to be the minimal organization of a team when any considerable series of subjects is to be photographed at one time. Teamwork of the first order of efficiency is required. When carried out in this manner, the procedure constitutes a standardized test situation through which each subject is to be passed, usually at such a rate that about ten or twelve subjects per hour can be photographed. Part of the subject's response to the test is recorded by one of our most objective devices—three-dimensional photography. Yet such a photograph is largely meaningless unless one knows exactly how the subject was handled, what effort and what quality of effort were made to bring him into perfect conformity with the standardized criteria listed in Table 18. The procedure constitutes a kind of performance test in which it is quite as important to be certain of what went into the picture as to be able to gauge the result.

Table 18

Instructions for Posing in Somatotype Photography

1. Frontal Picture

Stand in front of the subject. Demonstrate the position of attention. Tell him to take that position. Demonstrate forced extension of the arms. Tell him to do the same. Take hold of his wrists firmly and bring the shoulders down. Center the shoulder points in the mid-frontal plane (shoulders are not to be rolled forward or backward). Make certain that the chest is relaxed, relaxing it manually if necessary.

Make certain that the arms are as forcibly extended as possible, with the elbows locked so that the triceps muscles stand out *if they will.*

See that the subject's fingers are together, with the thumbs along the forefingers, and hyperextend his fingers manually by bringing your own inside hand down across his fingertips while your outside hand holds his hand in position. Bend his wrists inward so that his fingers point perpendicularly to the floor. Place his hands so that his wrists are five inches out from his thighs and so that the middle fingers are in the same frontal plane with the centers of his external malleoli.

Be sure that the subject's face is straight toward the camera, with the head held on the eye-ear plane. The head is centered on a center mark at the top of the beaded screen.

Before turning the pedestal for the next picture, tell the subject that you are about to turn him, and hold him firmly by the shoulders.

2. Profile Picture

Make certain again that the chest is relaxed and that the shoulder points are in the mid-frontal plane.

Right arm out of sight. Left arm in forced hyperextension, locked at the elbow. Make certain that the triceps muscle stands out if it can be made to do so. Hand and fingers as in the frontal picture, with the middle finger in the plane with the center of the external malleolus. Left arm as a whole in the center of the body. The arm must not cut the back line or front line of the body.

Body and face in perfect profile. The two legs in perfect alignment with no flexion or hyperextension at the knees.

Center points of the shoulder, hip, knee, and external malleolus to define a straight line if possible.

3. Dorsal Picture

Same position as frontal picture. Check center position of shoulder and level position of head. Make certain that the shoulders have not lifted.

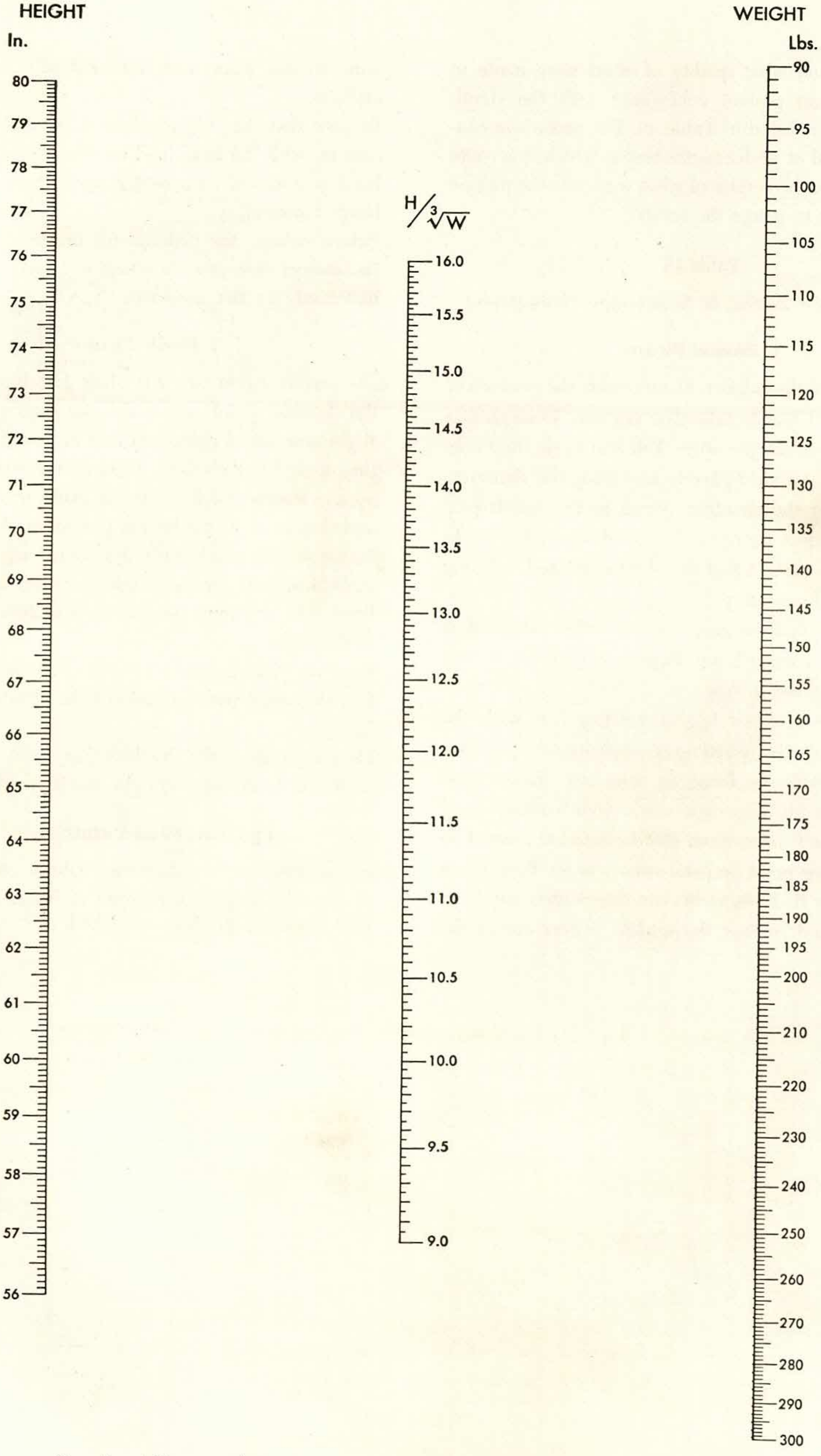


FIG. 4. *A Nomograph for Determining Height over the Cube Root of Weight when Height is known in Inches and Weight in Pounds*

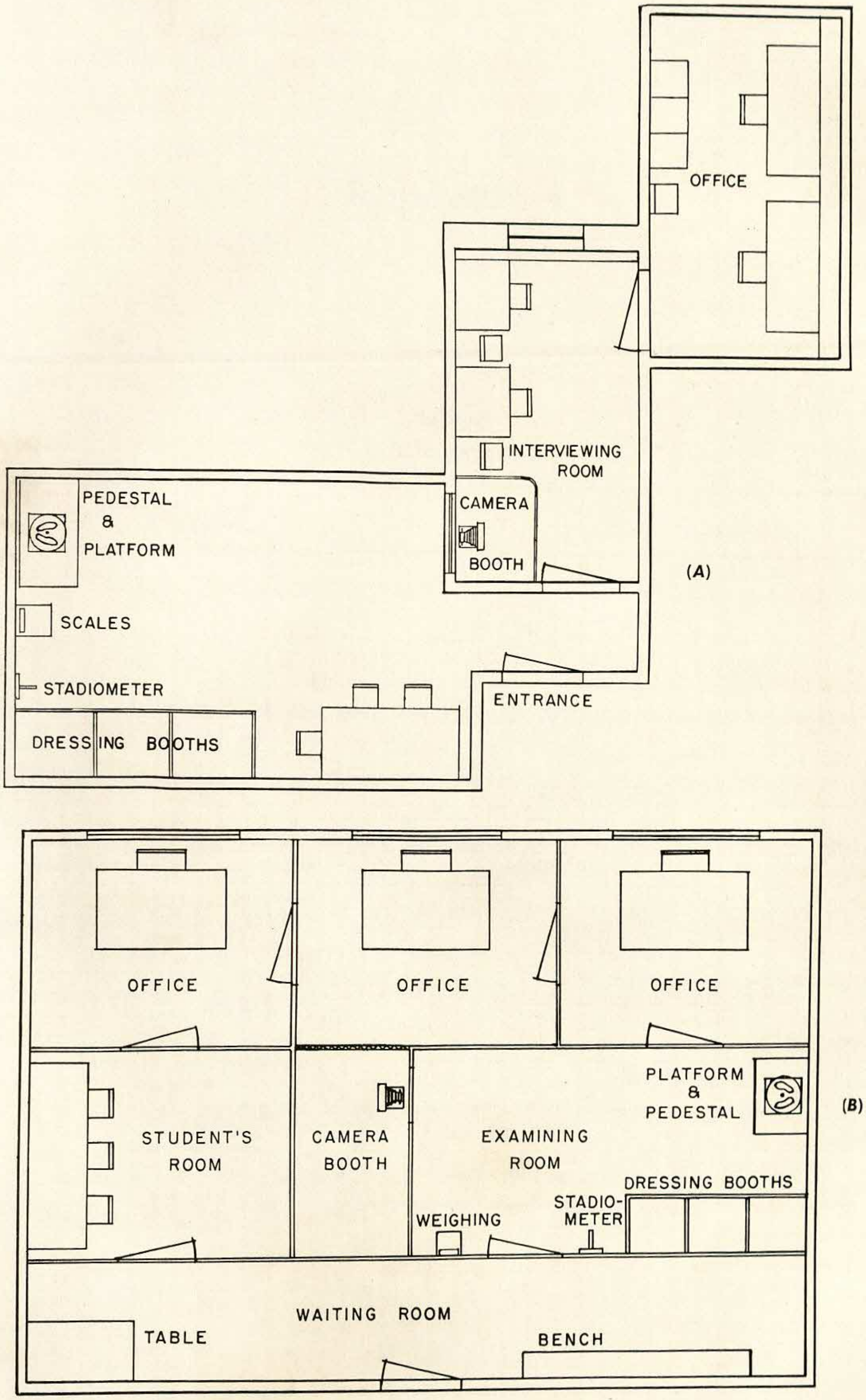


FIG. 5. *Sketches of Units Arranged for Somatotype Photography.* A. The Unit at the University of Oregon Medical School. B. The Unit at the Columbia Presbyterian Medical Center.

Appendix 4

Table 19

A Ladder for *g* and *t*

Rating[1]	*g* Atlas serial nos.	*t* Atlas serial nos.
6.0	1043, 1050	
5.5	641, 935, 1164	349, 488, 566, 570
5.0	626, 627, 880, 1042, 1049, 1116, 1153	53, 254, 258, 341, 364, 366, 486
4.5	620, 873, 874, 875, 893, 908, 959, 1051, 1065, 1086, 1118, 1147, 1148, 1150, 1152	220, 253, 295, 314, 319, 358, 498, 701, 750, 766, 803, 818, 851
4.0	141, 382, 389, 630, 651, 652, 655, 704, 881, 950, 951, 1066, 1080, 1082	28, 110, 116, 172, 342, 359, 360, 361, 450, 456, 457, 477, 515, 553, 573, 578, 603, 715, 758, 807, 964
3.5	7, 175, 186, 252, 402, 404, 659, 661, 671, 698, 759, 772, 773, 888, 996, 999, 1024, 1162, 1166	58, 76, 81, 91, 109, 130, 138, 196, 231, 240, 357, 429, 448, 490, 503, 504, 541, 575, 686, 687, 761, 824, 842, 947
3.0	74, 170, 280, 308, 405, 406, 514, 680, 695, 701, 739, 811, 812, 838, 1002, 1021	23, 67, 71, 87, 186, 217, 321, 323, 325, 411, 719, 843, 848, 869, 1009, 1013, 1030, 1034, 1097, 1132, 1168, 1172
2.5	6, 8, 13, 33, 61, 70, 75, 92, 158, 162, 204, 217, 301, 315, 319, 345, 361, 436, 450, 541, 1034, 1155	2, 8, 17, 29, 56, 62, 66, 99, 158, 207, 290, 292, 293, 315, 495, 496, 497, 571, 577, 580, 700, 745
2.0	79, 104, 109, 131, 188, 189, 254, 267, 358, 365, 788, 789, 820, 842, 871, 1141, 1143, 1160	14, 18, 82, 134, 139, 159, 160, 174, 241, 251, 252, 267, 491, 502, 579, 662, 702, 713, 760, 797, 853, 854, 1100, 1101
1.5	38, 52, 86, 87, 130, 231, 253, 785, 850, 859, 872, 1038	3, 16, 41, 74, 88, 92, 135, 155, 157, 170, 242, 414, 451, 619, 667, 767
1.0	11, 43, 63, 82, 101, 868	878, 1042, 1148

[1] For explanation of this scale, see p. 25.

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